VPDES PERMIT FACT SHEET

This document gives pertinent information concerning the **reissuance** of the VPDES permit listed below. This permit is being processed as a **Major,** Industrial permit. The industrial discharges result from the generation of electricity (station capacity of 1625 megawatts) with steam produced by the fission of nuclear fuel. The permit also addresses the discharge from a privately owned sewage treatment plant, as well as discharge from the storage of petroleum in above ground storage tanks. The effluent limitations contained in this permit will maintain the Water Quality Standards of 9 VAC 25-260 et seq. This permit action consists of evaluating effluent data, revising permit limitations and monitoring requirements, and revising permit special conditions.

1. Facility Name and Address: Surry Power Station & Gravel Neck
5570 Hog Island Road
Surry, VA 23883

Facility Contact Name: Phyllis G. Wells
Title: Environmental Compliance Coordinator
Telephone: (757) 365-2377
Email: phyllis.g.wells@dom.com

SIC: 4911 – Electric Services

2. Permit Number: VA0004090
Permit Expiration Date: January 21, 2012

3. Owner Name and Address: Virginia Electric & Power Company
5000 Dominion Boulevard
Glen Allen, VA 23060

Owner Contact Name: Cathy C. Taylor
Title: Director, Electric Environmental Services
Telephone: (804) 273-2929
Email: catherine.c.taylor@dom.com

4. Application Complete: Date: July 11, 2011
Permit Drafted By: Jeremy Kazio Date: October 5, 2012, November 13, 2012

Reviewed By: Emilee Adamson Date: December 19, 2012, December 27, 2012
Curt Linderman Date: March 5, 2013, March 22, 2013
Kyle Winter Date: March 25, 2013
EPA Region III Date:

Public Comment Period Dates: from to

Published Dates: and in *Sussex-Surry Dispatch*

5. Receiving Stream Information:

	Process Discharge		Storm Water Runoff			
	Outfall 001	**Outfall 002**	**Outfall 050**	**Outfall 051**	**Outfall 052**	**Outfall 053**
Receiving Stream Name:	James River	Unnamed Tributary to James River	Unnamed Tributary to James River	Unnamed Tributary to Hog Island Creek	James River	James River
Basin:	James River (Lower)	James River (Lower)	James River (Lower)	James River (Lower)	James River (Lower)	James River (Lower)
Subbasin:	NA	NA	NA	N/A	NA	NA
Section:	1	1a	1a	1	1	1
Class:	II	III	III	II	II	II
Special Standards:	a, bb	None	None	None	a, bb	a, bb
Rivermile:	2-JMS037.30	2-XTD002.15	2-XTD001.80	2-CXBO000.42	2-JMS029.34	2-JMS029.27
Tidal Receiving Stream?	YES	NO	NO	NO	YES	YES
On 303(d) List?	YES	NO	NO	YES	YES	YES

7-Day, 10-Year Low Flow (7Q10):	NA - Tidal	0 MGD	NA – Storm Water
1-Day, 10-Year Low Flow (1Q10):		0 MGD	
30-Day, 5-Year Low Flow (30Q5):		0 MGD	
30-Day, 10-Year Low Flow (30Q10):		0 MGD	
7Q10 High Flow:		0 MGD	
1Q10 High Flow:		0 MGD	
Harmonic Mean Flow (HM):		0 MGD	

Tidal Dilution Mulipliers (Applicable to **Outfall 001 ONLY**)		
Acute	ESR = 0.70:1	ESR = Effluent to Stream Ratio (Concentration of whole effluent in stream, in parts) DM = Dilution Multiplier (Parts stream divided by parts effluent)
	DM = **1.43**	
Chronic	ESR = 0.69:1	
	DM = **1.45**	
Human Health	ESR = 0.66:1	
	DM = **1.52**	

Please see **Attachment A** for Flow Frequency Memo by J.V. Palmore revised 10/3/2012 and *Mixing and Dilution of the Surry Nuclear Power Plant Cooling Water Discharge in the James River* by J.M. Hamrick, A.Y

Kuo, and J. Shen dated July 1995 and submitted to DEQ on August 11, 1995 (see Table 4 – "Maximum tidal cycle averaged relative concentrations with respect to concentrations in the cooling canal discharge").

6. Operator License Requirements: Class III (Sewage Treatment Plant). Licensed operator not required for discharges from Outfalls 001 and 002 because there are no forms of biological, chemical, or physical treatment as intended by the requirements contained in 9 VAC 25-31-200.C of the *VPDES Permit Regulation*

7. Reliability Class: Class II (Sewage Treatment Plant)

8. Permit Characterization:

(X) Existing Discharge
(X) Water Quality Limited
(X) Industrial (SIC=4911)
(X) PVOTW
(X) Private
(X) Compliance Schedule Required
(X) Reissuance
(X) Interim Limits in Permit
(X) Discharge to 303(d) Listed Segment
(X) Toxics Management Program Required
(X) Storm Water Management Plan
(X) Effluent Limited

9. Discharge Description

Outfalls Limited and Monitored in Part I.A.1				
Outfall No.	**Discharge Source**	**Description**	**Treatment**	**Max. 30-day flow (MGD)**
001	Units 1 & 2 Condensers (and internal outfalls 101 through 122)	Once-through non-contact cooling water & Internal Outfalls 101-122	Mixing, cooling, and periodic disinfection for biofouling control.	2300.396

Outfalls Limited and Monitored in Part I.A.3				
Outfall No.	**Discharge Source**	**Description**	**Treatment**	**Max. 30-day flow (MGD)**
101	Sewage Treatment Plant	The treatment plant treats domestic wastewater originating from Surry Power Station's sanitary drains.	Flow equalization, screening, settling, grinding, activated sludge, disinfection (chlorination), aerobic digestion (sludge), sludge drying beds (rarely used).	0.038238 (design flow = 0.085)

Outfalls Limited and Monitored in Part I.A.5				
Outfall No.	**Discharge Source**	**Description**	**Treatment**	**Max. 30-day flow (MGD)**
102	Turbine Sump A	The turbine sumps collect water and hydraulic/lube oil leakage from components within the turbine building.	Flotation, settling, oil skimmer.	0.0234
103	Turbine Sump B			0.05
106	Turbine Sump C			0.0234

Outfalls Limited and Monitored in Part I.A.6				
Outfall No.	**Discharge Source**	**Description**	**Treatment**	**Max. 30-day flow (MGD)**
116	Unit 1 Recirculation Spray Heat Exchanger (RSHX)	The RSHXs are part of an emergency system that maintains appropriate atmospheric pressure within the nuclear containment area. The RSHXs remove heat from water that collects in the containment sump. The supply water to these heat exchangers is James River water from the intake canal. The RSHXs are typically drained and maintained in a dry ready condition, but are tested once every other outage.	None	0.023
117	Unit 2 Recirculation Spray Heat Exchanger		None	2.982 (from application)

Outfalls Limited and Monitored in Part I.A.7				
Outfall No.	**Discharge Source**	**Description**	**Treatment**	**Max. 30-day flow (MGD)**
104	Reverse Osmosis (RO) Reject & Membrane Backwash	Well water is treated by reverse osmosis to provide makeup water to the Polishing Building.	None	0.0216
109	Radwaste Facility	The Radwaste Facility processes radioactive liquid waste.	Ion exchange, reverse osmosis	0.0181
110	Unit 1A Waste Neutralization Sump	The waste neutralization sumps collect and treat non-neutral pH wastewater produced during routine operation of the Condensate Polishing System and resin regeneration process. The treated wastewater can be discharged to the Settling Pond or to the Discharge Canal.	Settling, neutralization	0.0279
111	Unit 1B Waste Neutralization Sump			0.0279
112	Unit 2A Waste Neutralization Sump			0.0279
113	Unit 2B Waste Neutralization Sump			0.0279
120	Low Conductivity Sump	This sump collects wastewater from the Condensate Polishing System operation and associated resin regeneration process. Only wastewater with neutral pH is discharged via this internal outfall. Wastewater outside of the neutral pH range is directed to the Waste Neutralization Sumps for additional treatment prior to release (Outfalls 110, 111, 112, and 113). This sump can be discharged to the Settling Pond or to the Discharge Canal.	Settling, neutralization	0.038

Outfalls Limited and Monitored in Part I.A.8				
Outfall No.	**Discharge Source**	**Description**	**Treatment**	**Max. 30-day flow (MGD)**
107	Package Boilers A & B	The auxiliary boilers provide steam to the Auxiliary Steam System when both nuclear reactors are shut down. These boilers are also performance tested once per year. Boiler wastewater (primarily boiler blowdown) is discharged.	None	0.0031
114	Unit 1 Steam Generator Blowdown	Each Unit has 3 separate Steam Generators and 3 separate Steam Generator Blowdown Systems. The water used for the Steam Generators is treated by ion exchange, conditioned with additives for pH and corrosion control, and is recirculated within the system. Blowdown (i.e. purging of a specific volume of recirculated water) is necessary to regulate the chemistry of the recirculating water. The blowdown can be discharged to the discharge canal via these internal outfalls, or to the condenser hotwells for recirculation back into the steam system.	None	0.0429
115	Unit 2 Steam Generator Blowdown			0.0429
118	Unit 1 Condenser Hotwell Drain	The Condenser Hotwells (where steam condensate collects) are periodically drained for maintenance and inspection. Steam Generator Blowdown (see Outfalls 114 and 115 above) may be directed to these condenser hotwells.	None	0.09
119	Unit 2 Condenser Hotwell Drain			0.09
121	Unit 1 Steam Generator Hydrolance	Periodically, deionized water is used to clean the steam generators using a hydrolance (water blasting) process.	Filtration	0.0005
122	Unit 2 Steam Generator Hydrolance		Filtration	0.1025 (from application)

Outfalls Limited and Monitored in Part I.A.9				
Outfall No.	**Discharge Source**	**Description**	**Treatment**	**Max. 30-day flow (MGD)**
105	Oil Storage Tank Dike	The 210,000 gallon fuel oil tank located adjacent to the Discharge Canal serves the Auxiliary Boiler and Emergency Diesel Generators. The concrete dike provides emergency holding in the event of tank failure. Storm water collected within the dike is released via a gate valve to the Discharge Canal.	None. Collected storm water is visually inspected for petroleum, which if present is removed prior to release.	0.05891

Outfalls Limited and Monitored in Part I.A.11				
Outfall No.	**Discharge Source**	**Description**	**Treatment**	**Max. 30-day flow (MGD)**
108	Settling Pond	The Settling Pond receives discharges from internal outfalls 110, 111, 112, 113, and 120 (see outfall descriptions above). The Settling Pond also receives the discharge from the Gravel Neck oil/water separator, which is pumped to the Settling Pond via a lift station. Influent to the Gravel Neck oil/water separator includes discharges from: 1) oil/water separators for individual combustion turbine units 3, 4, 5, & 6; 2) compressor wash water and floor drains from combustion turbine units 3, 4, 5, & 6; 3) RO reject from the mobile RO systems; 4) Gravel Neck AST truck off-loading drains and emergency spill tank; 5) storm water collected within Gravel Neck fuel oil AST containment dike; 6) water collected within Gravel Neck fuel oil AST dike from periodic pressure washing exterior of tanks; 7) storm water collected within Surry Power Stations' various fuel oil AST containment dikes	Sedimentation, aeration	0.049318

Outfalls Limited and Monitored in Part I.A.12				
Outfall No.	**Discharge Source**	**Description**	**Treatment**	**Max. 30-day flow (MGD)**
002	Gravel Neck Gas Turbine Containment Dike	The 320,000 gallon fuel oil tank located between the newer combustion turbines and the intake canal serves the older backup combustion turbines. The dirt dike provides emergency holding in the event of tank failure. Storm water collected within the dike is released via a gate valve.	None. Collected storm water is visually inspected for petroleum, which if present is removed prior to release.	0.02127

Outfalls Limited and Monitored in Part I.A.15				
Outfall No.	**Discharge Source**	**Description**	**Treatment**	**Max. 30-day flow (MGD)**
050	Storm water runoff from ~272 acres of drainage area located in the central portion of the Surry Power Station and Gravel Neck sites	Storm water runoff	None	Weather dependent
051	Storm water runoff from ~84 acres of drainage area located adjacent to and East of the drainage area contributing to Outfall 050			
052	Storm water runoff from ~10 acres of drainage area located adjacent to and North of the high level intake structure			
053	Storm water runoff from ~10 acres drainage area located adjacent to and South of the high level intake structure			

Please see **Attachment B** for facility flow diagram, outfall location map, sewage treatment plant diagram and sludge haul route, storm water outfall locations and drainage maps, and well location map.

10. Sewage Sludge Use or Disposal: Sewage sludge generated by the Surry Power Station Sewage Treatment Plant (Outfall 101) is hauled offsite by Duck's Septage Company (DSC). The sludge is either placed into an aerated septage lagoon that is operated by DSC or taken to the Sussex Service Authority's Black Swamp Regional Wastewater Treatment Plant in Waverly, VA. See **Attachment B** for sewage sludge haul directions and map.

    It has not historically been necessary to remove sludge from the Settling Pond (Outfall 108). If it becomes necessary in the future, it is expected of the permittee that all solids removal and handling activities will be in conformance with the facility's Operations and Maintenance Manual in accordance with Part I.C.5.f of the 2013 permit.

11. Discharge Location Description:
    See **Attachment C** for topographic map and aerial photographs. See below for external outfalls coordinates.

    Map Name: Hog Island (066B) Quadrangle

External Outfall No.	Latitude	Longitude
Outfall 001	37.17133	-76.70423
Outfall 002	37.16100	-76.69285
Outfall 050	37.16712	-76.68959
Outfall 051	37.16167	-76.68315
Outfall 052	37.15707	-76.67109
Outfall 053	37.15472	-76.67109

12. Material Storage:
    See **Attachment D** for chemicals that are or will be stored and/or used onsite within the 2013 permit cycle. The, handling, storage, and use of these chemicals are expected to be in accordance with Part I.C.2 (Materials Handling/Storage) and Part I.C.26 (Best Management Practices) of the 2013 permit.

    In addition, the Surry Power Station and Gravel Neck facilities have multiple ASTs and other containers used for fuel oil or chemical storage located outdoors. The nature of stored material and maximum volume of each tank/container is listed below. Please note that chemical storage does not occur outdoors at the Gravel Neck site:

Surry Power Station – Petroleum ASTs			
Container Name / ID No.	**Product Stored**	**Total Capacity (gal)**	**Secondary Containment Volume (gal) / Type**
1-HS-TK-1	No. 2 Fuel Oil	210,000	228,904 / Concrete Floor and Wall
1-UO-TK-1	Used Oil	10,000	12,320 / Concrete Floor and Walls
Administration Building EDG Fuel Tank	No. 2 Fuel Oil	1,500	1,621 / Integral Steel
Base Tank 1	No. 2 Fuel Oil	550	1,550 / EDG Room with Concrete Curb
Base Tank 2	No. 2 Fuel Oil	550	1,550 / EDG Room with Concrete Curb
Base Tank 3	No. 2 Fuel Oil	550	1,550 / EDG Room with Concrete Curb
EDG 1 Day Tank (1-EE-TK-3)	No. 2 Fuel Oil	541	832 / EDG Room with Concrete Curb

Surry Power Station – Petroleum ASTs			
Container Name / ID No.	**Product Stored**	**Total Capacity (gal)**	**Secondary Containment Volume (gal) / Type**
EDG 2 Day Tank (2-EE-TK-3)	No. 2 Fuel Oil	541	832 / EDG Room with Concrete Curb
EDG 3 Day Tank (1-EE-TK-4)	No. 2 Fuel Oil	541	832 / EDG Room with Concrete Curb
EDG/ISFSI	No. 2 Fuel Oil	205	>205 / Double-walled tank
Emergency Service Water Pump Fuel Tank (1- SW-TK-1)	No. 2 Fuel Oil	4,800	6,488 / Room with Concrete Curb
Fire Water Diesel Fuel Tank (1-FP-TK-4)	No. 2 Fuel Oil	370	570 / Fire Pump House with Concrete Curb
NSS Garage Engine Oil Tank (VP-75-T-2)	Engine Oil	580	/ Double wall tank
NSS Garage Hydraulic Oil Tank (vP-75-T-3)	Hydraulic Oil	580	/ Double wall tank
NSS Garage Used Oil Tank / (VP-75-T-1)	Used Oil	300	/ Double wall tank
Oil Recovery System Tank (1-UO-TK-3)	Oil	300	>300 / Metal curbed concrete pad & sump
SBO Generator Tank (Blackout Diesel) (0-BFO-TK-1)	No. 2 Fuel Oil	1,217	1,676 / Concrete Floor and Dike
Security EDG 0-SE-DG-3 Base Tank	Diesel Fuel	300	/ Double wall tank
Security FAP EDG Tank / 0-SE-EG-2	No. 2 Fuel Oil	112	>112 / Double-Walled Tank
Turbine Lube Clean Oil (1-LO-TK-2)	Turbine Lube Oil	22,000	62,313 / Enclosed Concrete Area
Turbine Lube Used Oil (1-LO-TK-3)	Turbine Lube Oil	22,000	62,313 / Enclosed Concrete Area
Total Petroleum AST Volume -->		**277,537**	

Surry Power Station – Chemical Container Storage			
Container Name / ID No.	**Product Stored**	**Total Capacity (gal)**	**Secondary Containment Volume (gal) / Type**
No ID # Six - Polyurethane 3 for Unit 1 and 3 for Unit 2 High level Chemical Injection System	Sodium hypochlorite - 15% max / balance water, typical value of 13%	Each 3000 gal (max) tanks,	Poleyurethane containment for each tank can hold the entire 12,000 gallon for system

Surry Power Station – Chemical Container Storage			
Container Name / ID No.	**Product Stored**	**Total Capacity (gal)**	**Secondary Containment Volume (gal) / Type**
No ID # Two - Polyurethane 1 for Unit 1 and 1 for Unit 2 High level Chemical Injection System	Acti-Brom 1318 - 30 to 60% / balance water, typical value 43%.	Each 3000 gal (max) tanks,	Poleyurethane containment for each tank can hold the entire 12,000 gallon for system
1-CS-TK-2 Unit 1 RWST* Chemical Addition Tank	17-18% NaOH (Sodium Hydroxide)	4311 gallons	No
2-CS-TK-2 Unit 2 RWST Chemical Addition Tank	17-18% NaOH (Sodium Hydroxide)	4311 gallons	No

Gravel Neck – Petroleum ASTs			
Container Name / ID No.	**Product Stored**	**Total Capacity (gal)**	**Secondary Containment Volume (gal) / Type**
00-FO-TK-1A	Fuel Oil No. 2	3,177,000	3,190,208/Diked Area
00-FO-TK-1B	Fuel Oil No. 2	3,177,000	3,190,208/Diked Area
02-FO-TK-1C	Fuel Oil No. 2	320,000	312,782/Diked Area
Filter Drain Tank	Used Oil	270	1,000/OWS to VPDES Sump and Pond
Mist Vapor Holding Tank 1	Fuel Oil No. 2	250	1,000/OWS to VPDES Sump and Pond
Mist Vapor Holding Tank 2	Fuel Oil No. 2	250	1,000/OWS to VPDES Sump and Pond
Mobile Oil Tank	Used Oil	500	1,000/OWS to VPDES Sump and Pond
Unit 1 and 2 Emergency Diesel Generator	Diesel Fuel	171	235,100/Stormwater basin
Unit 1 Oil Sump	Fuel Oil No. 2	434	235,100/Stormwater Retention Basin
Unit 2 Diesel Fuel Tank	Diesel Fuel	203	235,100/Stormwater basin
Total Petroleum AST Volume -->		**6,676,078**	

13. Ambient Water Quality Information (Outfalls 001 and 002 ONLY, not applicable to storm water outfalls):

Outfall 001 - Water quality information used for the evaluation of the discharge from Outfall 001 are derived from data collected at DEQ's ambient monitoring station 2-JMS041.27. The station is located at the Scotland Ferry pier approximately 3.97 miles upstream of the discharge. However, hardness data were not collected at this station; therefore hardness data from station 2-JMS050.57 were used. The station is located at buoy 66 above the confluence with the Chickahominy River and is 13.27 miles upstream of the discharge.

Outfall 002 – The receiving stream for Outfall 002 is considered to be intermittent, therefore, statistical low flows used for the evaluation of the discharge are considered to be 'zero' for permitting purposes. Since flows within the receiving stream may be made up entirely of effluent at various times during the year, effluent quality information was used in place of ambient water quality information for the evaluation of the discharge from Outfall 002.

(see **Attachment E** for raw data and statistically derived values from monitoring stations 2-JMS041.27 and 2-JMS050.57).

14. Antidegradation Review & Comments: Outfall 001: Tier 1 **X** Tier 2 _____ Tier 3 _____
Outfall 002: Tier 1 **X** Tier 2 _____ Tier 3 _____

The State Water Control Board's Water Quality Standards includes an antidegradation policy (9 VAC 25-260-30). All state surface waters are provided one of three levels of antidegradation protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect those uses must be maintained. Tier 2 water bodies have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 water bodies are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters.

The anti-degradation review begins with a Tier determination.

Outfall 001 & Outfall 052: The James River had previously been considered a Tier 2 water at the discharge points. However, due to the benthic impairment in the oligohaline mainstem segment, the James is considered to be designated a Tier 1 waterbody.

Outfall 053: The James River had previously been considered a Tier 2 water at the discharge point. However, due to the benthic impairment in the mesohaline mainstem segment during the 2010 Assessment Cycle, the James is considered to be designated a Tier 1 waterbody.

Outfall 002, Outfall 050, & Outfall 051: Due to their intermittent natures, the receiving streams are considered to be Tier 1 water bodies.

(See **Attachment A** for Flow Frequency Memorandum by Jennifer V. Palmore, P.G. revised 10/3/2012)

15. Site Inspection: Date: November 9, 2010
Performed by: Charles Stitzer (See **Attachment F**)

16. Effluent Screening & Limitation Development:

Effluent Screening:

Effluent testing results submitted by the permittee in order to satisfy the requirements of EPA Form 2C and Attachment A for Outfall 001 and Outfall 002 have been summarized in **Attachment G** of this fact sheet. Also included in this attachment are DMR data submitted to DEQ between March 2007 and February 2012.

If it is feasible that a specific pollutant for which in-stream criteria are given in the *Virginia Water Quality Standards* (9 VAC 25-260 et.seq.) may exist in the facility's effluent, a Reasonable Potential Analysis must be conducted in order to determine if it is statistically probable that the permittee's future discharge may

contain that pollutant in concentrations which are harmful to aquatic life and/or human health within the receiving stream. The first step of the analysis is to calculate the pollutant's wasteload allocations (WLAs), which are defined as the pollutant concentration that may be discharged by the facility over specific periods of time which will maintain the in-stream criteria at the boundary of the effluent's mixing zone within the receiving stream. The WLAs are determined using a DEQ-sourced Excel spreadsheet called MSTRANTI, which requires inputs representing site specific data for critical flows, dilution, mixing, and water quality for both the receiving stream and the effluent.

For aquatic life Reasonable Potential evaluations, a desktop computer application called STATS is utilized to determine if future pollutant concentrations may exceed the aquatic life WLAs. The STATS application projects the WLA inputs, as well as observed effluent data, onto respective lognormal distributions. If the projected effluent distribution exceeds the most restrictive aquatic life WLA distribution, then a limitation is deemed necessary. The limitation is equal to the concentration expected to be observed at the required monitoring frequency of the most protective WLA distribution.

For human health reasonable potential evaluations, the WLAs are compared directly to the reported test results for the respective pollutant. If the test results exceed the human health WLA, then a limitation is deemed necessary. The human health WLA is directly applied as the monthly limitation, and the maximum daily or weekly average limitations are derived using multiplication factors in accordance with the January 10, 2001 memorandum by Dale Philips titled "Advice for Daily Maximum and Weekly Average Limits for Human Health Based Limits".

The table in **Attachment G** mentioned above lists the WLAs for each pollutant of concern, as well as the determination of whether a limitation is needed after the aforementioned Reasonable Potential evaluations were applied. The following tables represent those pollutants for which limitations were determined to be necessary for the 2013 permit. Please note that the permittee submitted total recoverable metals data for internal Outfall 101, however, these data were not evaluated because this effluent stream is reflected by Outfall 001, and because WLAs cannot be calculated for internal outfalls.

Outfall 002								
Pollutant	Test Results (µg/L)	2012 Wasteload Allocations (µg/L)				Basis for Proposed Limitation	Limitations (µg/L)	
		WLA_a	WLA_c	WLA_{HH-PWS}	WLA_{HH}		Mon. Avg.	Max.
Copper, dissolved	**8**, 22, 29, 4, 7, 7,16, 6, 32, 6	3.6	2.7	1300	--	WLA_a	3.6	3.6
Nickel, dissolved	<5 (entered as 5)	56	6.3	610	4600	WLA_c	9.2	9.2
Zinc, dissolved	**37,**182, 77, 231, 180, 282, 22, 72, 59, 119	36	36	7400	26000	WLA_a	36	36

Please note that Nickel at Outfall 002 was reported below a QL that is greater than the DEQ-recommended QL for that pollutant. Consequently, the value was treated as concentration data equal to the QL for the purposes of this permit evaluation. Also note that the test results for Copper and Zinc at Outfall 002 submitted with the 2011 application (in bold under the "Test Results" column) were combined with monitoring data submitted to DEQ between August 2008 and March 2012. The permittee was required to monitor for dissolved Copper and Zinc during the 2007-2012 permit cycle due to elevated levels of these pollutants reported in the 2006 application for Outfall 002.

Please also note that the permittee submitted bacteriological test results for both *E.coli* and *Enterococcus* of 75 N/CML and >2420 N/CML, respectively, taken at the Outfall 001 discharge. The main source of effluent from this outfall is once through cooling water. There are no processes at this facility which contribute bacteria to the effluent other than the Sewage Treatment Plant, which discharges to the effluent canal through internal Outfall 101. The effluent from the Sewage Treatment Plant is limited for Fecal Coliform bacteria, and additionally, the permittee has demonstrated adequate disinfection through a successful

Bacteria Demonstration Study conducted during the 2007 permit cycle. Between March 2007 and February 2012 the permittee did not violate their Fecal Coliform or minimum TRC limitations. Therefore, it is staff's judgment that the source of the elevated bacterial levels discharged through Outfall 001 may be attributed to background levels within the James River. Please note that the James River is not impaired for the Recreation Use at the Outfall 001 location, and thus the discharge has not caused, nor does it currently contribute to, any bacteriological impairments within the receiving water body.

Please see **Attachment H** for MSTRANTI and STATS printouts.

Permit Limitations and Monitoring Requirements Rationale:

▼ Basis for Effluent Limitations: Outfall 001 (Final Effluent Canal)

EFFLUENT CHARACT.	BASIS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		MONTHLY AVERAGE	WEEKLY AVERAGE	MIN.	MAX.	FREQ.	SAMPLE TYPE
Flow (MGD)	NA	NL	NA	NA	NL	Continuous	Recorded
pH (Standard Units)	1, 3	NA	NA	6.0	9.0	2 per Month	Grab
Total Residual Chlorine (mg/L)	1, 3	0.0080	NA	NA	0.016	1 per Day	Grab
Heat Rejected (BTU/HR)	4	Heat rejected shall not exceed a daily maximum of 12.6×10^9				Continuous	Recorded
Intake pH (Standard Units)	NA	NA	NA	NL	NL	2 per Month	Grab
Intake Total Suspended Solids (mg/L)	NA	NL	NA	NA	NL	1 per Month	Grab
Thallium, total recoverable (µg/L)	NA	NL	NA	NA	NL	1 per Year	Grab

Basis for Limitations:
1) Water Quality Standards (9 VAC 25-260)
2) Federal Effluent Guidelines (40 CFR 423.12)
3) Best Engineering Judgment (BEJ)
4) 316(a) Demonstration Report

pH: GM95-012 suggests that pH limits **not** be applied to once-through cooling water discharges that intake from and discharge to the same water body due to a lack of reasonable potential that pH would be changed by the process, even in the event of equipment failure. Additionally, GM95-012 advises that the permittee has no control over the pH of the intake water and no reasonable remedy in the event that the intake water fails to meet the Water Quality Standards. For this facility, even though once-through cooling water comprises the bulk of the discharge through Outfall 001, this outfall also includes multiple low volume internal outfalls which may have a bearing on the pH levels of the discharge, especially during plant outages or in the event of equipment failure. Consequently, in accordance with the "Exclusions" section of GM95-012 (Pg. 3), pH limitations are considered to be appropriate for the facility's discharge because ". . . chemical additives, routine operation, equipment failure or leakage could change the pH of the cooling water." The pH limitations required in 40 CFR 423.12(b)(1) of the Federal Effluent Guidelines (6.0-9.0 SU) are specifically exempted from being applied to once-through cooling water discharges, and therefore, the pH limitations required in the 2013 permit for Outfall 001 are based on the Water Quality Standards (9 VAC 25-260-50.- Class II Estuarine Waters).

However, with regard for the abovementioned statement in GM95-012 concerning the permittee having no control over intake pH levels, footnote (b) in Part I.A.1 of the 2013 permit allows that pH be maintained within

0.5 SU's of the intake pH values when intake pH values are observed outside of the limitation range. This permit requirement aids in ensuring that the permittee consistently provides controls for the overall influence that the facility's daily processes may have on the influent pH levels. It should be noted that pH data reported with DMRs submitted between March 2007- February 2012 for the Outfall 001 discharge included a 5 year maximum of 8.5 SU and minimum of 6.9 SU, while the intake pH data for the same time period included a 5 year maximum of 8.46 SU and minimum of 6.43 SU. These values are within the 2007 permit limits as well as the 2013 proposed permit limits of 6.0-9.0 SU.

Total Residual Chlorine (TRC): Chlorine compounds may be added to the facility's service water as an anti-biofouling agent. Additionally, chlorine is also used for disinfection at the onsite wastewater treatment plant discharging through Outfall 101. In accordance with GM10-2003 (IN-3, Pg.21), if chlorine has the potential to exist in the discharge, a TRC limit should be placed in the permit that reflects the more stringent of either water quality-based limit or an applicable effluent guideline technology-based limit. The applicable Federal Effluent Guideline for this facility (40 CFR 423.13(b)(1)) includes a maximum TRC limitation of 0.20 mg/L. In order to determine if this value is more or less stringent than the water quality based limit, a Reasonable Potential and Limitation Evaluation was conducted for TRC as explained above. GM 00-2011 requires that an effluent value of 20 mg/L be entered into STATS as effluent data in order to bypass the program's Reasonable Potential Analysis in cases where TRC is purposely introduced or known to exist in the facility's effluent. The resulting limitations for TRC are 0.016 mg/L maximum and 0.0080 mg/L monthly average, which are more stringent than the FEG based limitation. Please note that the TRC limitation in the 2013 permit is more stringent than the TRC limitation in the 2007 permit because the WLAs for Chlorine Producing Oxidants were used instead of TRC due to: 1) the WLAs being more stringent than the TRC WLAs, and 2) the permittee's close proximity to the border between estuarine waters and transition waters on the James River. Chlorinated effluents which are discharged to salt water react to produce chlorine produced oxidants that have a toxic impact similar to TRC in freshwater. It is assumed that CPO in salt water receiving streams is controlled by the effluent TRC limit and are therefore interchangeable. A compliance schedule for the new TRC limitation is not included for the 2013 permit because it is staff's judgment that the permittee will be able to meet the new limitation immediately upon permit reissuance based on historic DMR data.

Heat Rejected: Pursuant to a Study Plan approved by the Board, Virginia Power conducted a 316(a) study and submitted a §316(a) Demonstration Report on September 1, 1977. The Board reviewed the report and found that effluent limitations more stringent than the thermal limitations included in the 2013 permit are not necessary to assure the protection and propagation of a balanced, indigenous community of shellfish, fish, and wildlife in the James River. 9 VAC 25-260-90 of the *Virginia Water Quality Standards* state that a satisfactory showing made in conformance with § 316(a) shall be deemed compliance with the general standard and with the temperature requirements of the standards. Virginia Power declared in the 2011 permit renewal application that there have been no substantial changes in the conditions described in the 316(a) Demonstration Report. The 316(a) variance is therefore, continued.

Intake pH: Monitoring only is included in the 2013 permit so that the impact of the power station on pH at Outfall 001 can be accurately determined. See pH limitation rationale above.

Intake Total Suspended Solids: Monitoring only is included in the 2013 permit so that the net increase produced by Outfalls 102, 103, 106, 116, and 117 can be calculated. These internal outfalls include the discharge of water sourced from the facility's intake canal. See Item 9 of this fact sheet for outfall descriptions.

Thallium: Monitoring for Thallium has been included in the 2013 permit due to concentrations observed in the effluent greater than the human health WLAs. See the chart below for concentration data submitted with the 2011 permit application. On September 27, 2012 Dominion provided additional Thallium data indicating a concentration less than a QL of 5 µg/L at Outfall 001. Due to the data variability, it is staff's judgment that a limitation is not warranted at this time, but that additional data should be collected through regular monitoring for Thallium to determine if a limitation may be necessary in a future permit reissuance.

Pollutant	Test Results (µg/L)		2012 Wasteload Allocations (µg/L)			
	2011 Application	9/27/2012	WLA_a	WLA_c	WLA_{HH-PWS}	WLA_{HH}
Thallium	Dissolved = 6.2	<5	NA	NA	0.24	0.71
	Total Rec. = 8.1					

▼ Basis for Effluent Limitations: Outfall 101 (Wastewater Treatment Plant)

EFFLUENT CHARACT.	BASIS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		MONTHLY AVERAGE	WEEKLY AVERAGE	MIN.	MAX.	FREQ.	SAMPLE TYPE
Flow (MGD)	NA	NL	NA	NA	NL	Continuous	Recorded
pH (Standard Units)	2	NA	NA	6.0	9.0	1 per Day	Grab
BOD_5 (mg/L)	2	30	NA	NA	45	1 per 2 Months	4 HC
Total Suspended Solids (mg/L)	2	30	NA	NA	45	1 per 6 Months	4 HC
Enterococci (n/100 mL)	1, 3	35 geometric mean	NA	NA	NA	4 Days per Month (between 10 a.m. and 4 p.m.)	Grab
Fecal coliform (n/100 mL)	3	200 geometric mean	NA	NA	NA	4 Days per Month (between 10 a.m. and 4 p.m.)	Grab

Basis for Limitations:
1) Water Quality Standards (9 VAC 25-260)
2) Federal Effluent Guidelines (40 CFR 133.102)
3) Best Engineering Judgment (BEJ)

pH, BOD_5, and TSS: These limitations are based on 40 CFR 133.102 of the Federal Effluent Guidelines (FEGs) for Secondary Treatment Standards. Please note that the weekly (7-day) average limitations for BOD_5 and TSS recommended by the FEGs have been applied as maximum limitations in the 2013 permit in order to align with the permit limitations at other industrial internal outfalls which discharge to Outfall 001.

Enterococci: The limitation for Enterococci is expected to protect the primary contact recreation use bacteria criteria outlined in 9 VAC 25-260-170 (Water Quality Standards). The primary contact recreation bacterial in-stream criteria for protection of saltwater is 35N/100 mL colony forming units (CFU) of Enterococci bacteria is based on a monthly geometric mean resulting from at least 4 weekly samples. The 2007 permit reissuance incorporated a new limitation for Enterococci, but allowed the permittee the option of performing a Bacteria Demonstration Study. If the requirements of the Study were met, the permittee would have been allowed to eliminate the bacterial limitation in lieu of utilizing chlorine concentration to demonstrate that proper disinfection was being performed. The permittee successfully completed the demonstration study and submitted the results to DEQ on 6/21/2007, and consequently, the Enterococci limitation did not become effective during the 2007-2013 permit term. However, due to recent guidance from EPA prohibiting the use of surrogate parameters (i.e. in this case, TRC), the limitation has been included in the 2013 permit reissuance.

Fecal Coliform: The fecal coliform limitation is based on BEJ due to the internal outfall contributing to Outfall 001 which ultimately discharges to shellfish waters. Fecal coliform monitoring provides data directly applicable to the protection of shellfish waters. Although the Water Quality Standards have been amended to remove the reference to this effluent limit in shellfish waters, the Virginia Department of Health, Bureau of Shellfish Sanitation still uses fecal coliform as an indicator for determining the quality of shellfish waters, and it is necessary to ensure discharges meet this level. Since it has historically maintained the in-stream water quality criteria for fecal coliform of 14/43 per 100 milliliters, the 200 per 100 milliliters effluent limit will be used in shellfish waters in order to continue meeting the in-stream criteria and for protection of shellfish under the general standard.

▼ Basis for Effluent Limitations: Outfalls 102, 103, 106 (Low Volume Waste Sources)

EFFLUENT CHARACT.	BASIS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		MONTHLY AVERAGE	WEEKLY AVERAGE	MIN.	MAX.	FREQ.	SAMPLE TYPE
Flow (MGD)	NA	NL	NA	NA	NL	1 per 6 Months	Estimate
pH (Standard Units)	3	NA	NA	NL	NL	1 per 6 Months	Grab
Total Suspended Solids – Net Increase (mg/L)	2	30	NA	NA	100	1 per 6 Months	Grab
Oil and Grease (mg/L)	2	15	NA	NA	20	1 per 6 Months	Grab

Basis for Limitations:
1) Water Quality Standards (9 VAC 25-260)
2) Federal Effluent Guidelines (40 CFR 423.12)
3) Best Engineering Judgment (BEJ)

pH: Monitoring only is required based on BEJ. Since pH is ultimately limited in accordance with the Water Quality Standards at Outfall 001, the technology based pH limitations contained 40 CFR 423.12(b)(1) of the FEGs are not necessary at this internal outfall. However, monitoring is required in order to aid in determining which contributing process may be the cause of pH violations, if any are observed, at Outfall 001.

Total Suspended Solids – Net Increase: Limitation is based on 40 CFR 423.12(b)(3) of the FEGs for low volume waste sources. The limitation is applied as a net increase with respect to the intake canal because the source water for these discharges is derived from the intake canal. Application as a net limitation is allowed by 9 VAC 25-31-230.G.2 (VPDES Permit Regulation) because the permittee has demonstrated, through reporting of DMR data between March 2007-February 2012 showing a consistent net increase of zero, that the ". . .constituents of the generic measure in the effluent are substantially similar to the constituents of the generic measure in the intake water . . .".

Oil and Grease: Limitation is based on 40 CFR 423.12(b)(3) of the FEGs for low volume waste sources.

▼ Basis for Effluent Limitations: Outfalls 116, 117 (Low Volume Waste Sources)

EFFLUENT CHARACT.	BASIS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		MONTHLY AVERAGE	WEEKLY AVERAGE	MIN.	MAX.	FREQ.	SAMPLE TYPE
Flow (MGD)	NA	NL	NA	NA	NL	1 per Month	Estimate
pH (Standard Units)	3	NA	NA	NL	NL	1 per Month	Grab
Total Suspended Solids – Net Increase (mg/L)	2	30	NA	NA	100	1 per Month	Grab
Oil and Grease (mg/L)	2	15	NA	NA	20	1 per Month	Grab

Basis for Limitations:
1) Water Quality Standards (9 VAC 25-260)
2) Federal Effluent Guidelines (40 CFR 423.12)
3) Best Engineering Judgment (BEJ)

pH: Monitoring only is required based on BEJ. Since pH is ultimately limited in accordance with the Water Quality Standards at Outfall 001, the technology based pH limitations contained 40 CFR 423.12(b)(1) of the FEGs are not necessary at this internal outfall. However, monitoring is required in order to aid in determining which contributing process may be the cause of pH violations, if any are observed, at Outfall 001.

Total Suspended Solids – Net Increase: Limitation is based on 40 CFR 423.12(b)(3) of the FEGs for low volume waste sources. The limitation is applied as a net increase with respect to the intake canal because the source water for these discharges is derived from the intake canal. Application as a net limitation is allowed by 9 VAC 25-31-230.G.2 (VPDES Permit Regulation) because the permittee has demonstrated, through reporting of DMR data between March 2007-February 2012 showing a consistent net increase of zero, that the ". . .constituents of the generic measure in the effluent are substantially similar to the constituents of the generic measure in the intake water . . .".

Oil and Grease: Limitation is based on 40 CFR 423.12(b)(3) of the FEGs for low volume waste sources.

▼ Basis for Effluent Limitations: Outfalls 104, 109, 110, 111, 112, 113, 120 (Low Volume Waste Sources)

EFFLUENT CHARACT.	BASIS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		MONTHLY AVERAGE	WEEKLY AVERAGE	MIN.	MAX.	FREQ.	SAMPLE TYPE
Flow (MGD)	NA	NL	NA	NA	NL	1 per 6 Months	Estimate
pH (Standard Units)	3	NA	NA	NL	NL	1 per 6 Months	Grab
Total Suspended Solids (mg/L)	2	30	NA	NA	100	1 per 6 Months	Grab
Oil and Grease (mg/L)	2	15	NA	NA	20	1 per 6 Months	Grab

Basis for Limitations:
1) Water Quality Standards (9 VAC 25-260)
2) Federal Effluent Guidelines (40 CFR 423.12)
3) Best Engineering Judgment (BEJ)

pH: Monitoring only is required based on BEJ. Since pH is ultimately limited in accordance with the Water Quality Standards at Outfall 001, the technology based pH limitations contained 40 CFR 423.12(b)(1) of the FEGs are not necessary at this internal outfall. However, monitoring is required in order to aid in determining which contributing process may be the cause of pH violations, if any are observed, at Outfall 001.

Total Suspended Solids: Limitation is based on 40 CFR 423.12(b)(3) of the FEGs for low volume waste sources.

Oil and Grease: Limitation is based on 40 CFR 423.12(b)(3) of the FEGs for low volume waste sources.

▼ Basis for Effluent Limitations: Outfalls 107, 114, 115, 118, 119,121, 122 (Low Volume Waste Sources)

EFFLUENT CHARACT.	BASIS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		MONTHLY AVERAGE	WEEKLY AVERAGE	MIN.	MAX.	FREQ.	SAMPLE TYPE
Flow (MGD)	NA	NL	NA	NA	NL	1 per Month	Estimate
pH (Standard Units)	3	NA	NA	NL	NL	1 per Month	Grab
Total Suspended Solids (mg/L)	2	30	NA	NA	100	1 per Month	Grab
Oil and Grease (mg/L)	2	15	NA	NA	20	1 per Month	Grab

1) Water Quality Standards (9 VAC 25-260)
2) Federal Effluent Guidelines (40 CFR 423.12)
3) Best Engineering Judgment (BEJ)

pH: Monitoring only is required based on BEJ. Since pH is ultimately limited in accordance with the Water Quality Standards at Outfall 001, the technology based pH limitations contained 40 CFR 423.12(b)(1) of the FEGs are not necessary at this internal outfall. However, monitoring is required in order to aid in determining which contributing process may be the cause of pH violations, if any are observed, at Outfall 001.

Total Suspended Solids: Limitation is based on 40 CFR 423.12(b)(3) of the FEGs for low volume waste sources.

Oil and Grease: Limitation is based on 40 CFR 423.12(b)(3) of the FEGs for low volume waste sources.

▼ Basis for Effluent Limitations: Outfall 105 (Oil Storage Tank Dike [Low Volume Waste Source])

EFFLUENT CHARACT.	BASIS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		MONTHLY AVERAGE	WEEKLY AVERAGE	MIN.	MAX.	FREQ.	SAMPLE TYPE
Flow (MGD)	NA	NL	NA	NA	NL	1 per Month	Estimate
pH (Standard Units)	3	NA	NA	NL	NL	1 per Month	Grab
Total Suspended Solids (mg/L)	2	30	NA	NA	100	1 per Month	Grab
Total Petroleum Hydrocarbons (TPH) (mg/L)	3	NL	NA	NA	NA	1 per Month	Grab
Oil and Grease (mg/L)	2	15	NA	NA	20	1 per Month	Grab

Basis for Limitations:
1) Water Quality Standards (9 VAC 25-260)
2) Federal Effluent Guidelines (40 CFR 423.12)
3) Best Engineering Judgment (BEJ)

pH: Monitoring only is required based on BEJ. Since pH is ultimately limited in accordance with the Water Quality Standards at Outfall 001, the technology based pH limitations contained 40 CFR 423.12(b)(1) of the FEGs are not necessary at this internal outfall. However, monitoring is required in order to aid in determining which contributing process may be the cause of pH violations, if any are observed, at Outfall 001.

Total Suspended Solids: Limitation is based on 40 CFR 423.12(b)(3) of the FEGs for low volume waste sources.

Total Petroleum Hydrocarbons (TPH): Oil and grease limitations are required for low volume waste sources per 40 CFR 423.12(b)(3) of the FEGs. According to GM96-002 (entire document) and GM08-2006 (Fact Sheet, Section 6.1, Pg. 6), however, TPH is considered to be a good indicator of non-gasoline petroleum contamination. Therefore, based on BEJ, monitoring for TPH is required for the 2013 permit due to the nature of the potential source for contamination from this discharge point. Please note that requirements specifying that particular TPH test methods for diesel range organics (DRO) and gasoline range organics (GRO) be used by the permittee to determine compliance with the limitation have been added to the 2013 permit in order to match those required in DEQ's *General VPDES Permit for Petroleum Contamination Sites, Groundwater Remediation, and Hydrostatic Tests (*9 VAC 25-120*)*.

Oil and Grease: Limitation is based on 40 CFR 423.12(b)(3) of the FEGs for low volume waste sources.

▼ Basis for Effluent Limitations: Outfall 108 (Settling Pond [Low Volume Waste Source])

EFFLUENT CHARACT.	BASIS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		MONTHLY AVERAGE	WEEKLY AVERAGE	MIN.	MAX.	FREQ.	SAMPLE TYPE
Flow (MGD)	NA	NL	NA	NA	NL	1 per Month	Measured
pH (Standard Units)	3	NA	NA	NL	NL	1 per Month	Grab
Total Suspended Solids (mg/L)	2	30	NA	NA	100	1 per Month	Grab
Total Organic Carbon (mg/L)	3	NA	NA	NA	110	1 per Month	Grab
Total Petroleum Hydrocarbons (TPH) (mg/l)	3	NL	NA	NA	NA	1 per Month	Grab
Oil and Grease (mg/L)	2	15	NA	NA	20	1 per Month	Grab

Basis for Limitations:
1) Water Quality Standards (9 VAC 25-260)
2) Federal Effluent Guidelines (40 CFR 423.12)
3) Best Engineering Judgment (BEJ)

pH: Monitoring only is required based on BEJ. Since pH is ultimately limited in accordance with the Water Quality Standards at Outfall 001, the technology based pH limitations contained 40 CFR 423.12(b)(1) of the FEGs are not necessary at this internal outfall. However, monitoring is required in order to aid in determining which contributing process may be the cause of pH violations, if any are observed, at Outfall 001.

Total Suspended Solids: Limitation is based on 40 CFR 423.12(b)(3) of the FEGs for low volume waste sources.

Total Organic Carbon (TOC): The limitation for TOC is carried over from the 2007 permit reissuance to the 2013 permit reissuance because the permittee has previously demonstrated compliance with this limit and therefore it cannot be removed due to antibacksliding policies. The TOC limitation was initially based on BEJ and originates from previous agency guidance for permitting of Bulk Oil Storage Facilities (Permit Manual, issued July 1995, Appendix IN – Industrial, Part F.2.d). TOC is also utilized as an indicator parameter for non-petroleum organic substances in the *General Virginia Pollutant Discharge Elimination System (VPDES) Permit Regulation for Discharges from Petroleum Contaminated Sites, Groundwater Remediation, and Hydrostatic Tests* (VAG83) (see GM08-2006 Fact Sheet, Pg. 17). A large portion of contributing flow to this outfall is from the oil/water separator which serves the various drains around the Gravel Neck Combustion Turbine (CT) Station (see Item 9 of this fact sheet for a description of contributing flows to the oil/water separator). A large volume of number two fuel oil is stored at this site for use as an auxiliary fuel for the CT generators, and therefore, the potential for non-gasoline petroleum product contamination supports the limitation for TOC applied to this outfall.

Total Petroleum Hydrocarbons (TPH): Oil and grease limitations are required for low volume waste sources per 40 CFR 423.12(b)(3). According to GM96-002 and GM08-2006 (Fact Sheet, Section 6.1, Pg. 6), however, TPH is considered to be a better indicator of non-gasoline petroleum contamination than oil and grease. Therefore, based on BEJ, monitoring for TPH is required for the 2013 permit due to the nature of the potential source for contamination from this discharge point. Please note that requirements specifying that particular TPH test methods for diesel range organics (DRO) and gasoline range organics (GRO) be used by the permittee to determine compliance with the limitation have been added to the 2013 permit in order to match those required in DEQ's *General VPDES Permit for Petroleum Contamination Sites, Groundwater Remediation, and Hydrostatic Tests (*9 VAC 25-120*)*.

Oil and Grease: Limitation is based on 40 CFR 423.12(b)(3) of the FEGs for low volume waste sources.

▼ Basis for Effluent Limitations: Outfall 002 (Gravel Neck AST Containment Dike)

EFFLUENT CHARACT.	BASIS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		MONTHLY AVERAGE	WEEKLY AVERAGE	MIN.	MAX.	FREQ.	SAMPLE TYPE
Flow (MGD)	NA	NL	NA	NA	NL	1 per Month	Estimate
pH (Standard Units)	1	NA	NA	6.0	9.0	1 per Month	Grab
Rainwater pH (Standard Units)	2	NA	NA	NL	NL	1 per Month	Grab
Total Suspended Solids (mg/L)	2	30	NA	NA	100	1 per Month	Grab
Total Organic Carbon (mg/L)	2	NA	NA	NA	110	1 per Month	Grab
Total Petroleum Hydrocarbons (TPH) (mg/L)	2	NL	NA	NA	15	1 per Month	Grab
Copper, total recoverable (µg/L)	1	3.6	NA	NA	3.6	1 per Month	Grab
Nickel, total recoverable (µg/L)	1	9.2	NA	NA	9.2	1 per Month	Grab
Zinc, total recoverable (µg/L)	1	36	NA	NA	36	1 per Month	Grab

Basis for Limitations:
1) Water Quality Standards (9 VAC 25-260)
2) Best Engineering Judgment (BEJ)

pH: The pH limit is derived from 9 VAC 25-260-50 (Water Quality Standards) for discharges to Class II or Class III waters in the Piedmont and Coastal Zones.

Rainwater pH: Footnote (a) in Part I.A.12 of the 2013 permit allows that pH be maintained within 0.5 SU's of the rainwater pH values when rainwater pH values are observed outside of the limitation range. This permit requirement aids in ensuring that the permittee consistently provides controls for the overall influence that the facility's daily processes may have on the rainwater pH levels.

Total Suspended Solids: Limitation is based on BEJ. Activities which contribute to the discharge from this outfall are not covered by any part of the Federal Effluent Guidelines. It is unknown when the TSS limitation for this outfall first became effective, but because the permittee has previously demonstrated compliance with this limit, it cannot be removed due to antibacksliding policies.

Total Organic Carbon (TOC): Limitation is based on BEJ. Activities which contribute to the discharge from this outfall are not covered by any part of the Federal Effluent Guidelines. The limitation for TOC is carried over from the 2007 permit reissuance to the 2013 permit reissuance because the permittee has previously demonstrated compliance with this limit and therefore it cannot be removed due to antibacksliding policies. The TOC limitation is originally derived from previous agency guidance for permitting of Bulk Oil Storage Facilities (Permit Manual, issued July 1995, Appendix IN – Industrial, Part F.2.d). TOC is also utilized as an indicator parameter for non-petroleum organic substances in the *General Virginia Pollutant Discharge Elimination System (VPDES) Permit Regulation for Discharges from Petroleum Contaminated Sites, Groundwater Remediation, and Hydrostatic Tests* (see GM08-2006 Fact Sheet, Pg. 17).

Total Petroleum Hydrocarbons (TPH): Limitation is based on BEJ. Activities which contribute to the discharge from this outfall are not covered by any part of the Federal Effluent Guidelines. The TPH is limitation is derived from current agency guidance (Permit Manual, Section IN-5, Pg.5) for permitting of Bulk Petroleum Storage facilities. Additionally, according to GM08-2006 (Fact Sheet, Section 6.1, Pg. 6), TPH is considered to be an indicator parameter for contamination from non-gasoline petroleum products, and is thus limited in the *General Virginia Pollutant Discharge Elimination System (VPDES) Permit Regulation for Discharges from Petroleum Contaminated Sites, Groundwater Remediation, and Hydrostatic Tests*. Please note that requirements specifying that particular TPH test methods for diesel range organics (DRO) and gasoline range organics (GRO) be used by the permittee to determine compliance with the limitation have been added to the 2013 permit in order to match those required in DEQ's *General VPDES Permit for Petroleum Contamination Sites, Groundwater Remediation, and Hydrostatic Tests (*9 VAC 25-120*)*.

Copper, Nickel, and Zinc: Limitations for these pollutants were determined to be necessary in accordance with the Reasonable Potential and Limitation Analyses described in the first part of this fact sheet section.

Please see **Attachment I** for a copy of 40 CFR 423, the Federal Effluent Guidelines for *Steam Electric Power Generating Point Source Category*.

17. Antibacksliding Statement : All limits in the 2013 permit are at least as stringent as the 2007 permit. The Total Phosphorus limitation formerly applied to Outfall 001 has been removed from the 2013 permit. During previous permit re-issuances, the Water Quality Standards assigned Special Standards NEW-19 to the receiving water body section, designating it as a Nutrient Enriched Water (NEW). Therefore, in accordance with 9 VAC 25-40-30 A. (Policy for Nutrient Enriched Waters), a limitation for Total Phosphorus was required. For the 2013 reissuance, the current Water Quality Standards (January 2011) have repealed the NEW designation to the receiving water body section, and consequently, the associated Total Phosphorus limitation is no longer applicable to this discharge. Therefore, in accordance with Guidance Memo 07-2008, Amendment 2 (Page 15), removal of the former TP limitation does not violate antibacksliding policies because: a) the facility is a non-significant industrial facility and therefore the discharge of nutrients are covered under the Watershed General Permit (see Item 23 of this fact sheet for further information); b) the limit is technology-based, so backsliding is permissible; c) a discharge to the Chesapeake Bay watershed is exempt from the 2.0 mg/L limit per 9VAC 25-40-30.D (Policy for Nutrient Enriched Waters); d) the facility has not installed nutrient control treatment; and e) the facility has not undertaken any process or site management changes in order to comply with the TP limit.

18. Special Conditions:

Part I.B. - Additional TRC Limitations and Bacterial Limitations and Monitoring Requirements–Outfall 101 (Sewage Treatment Plant)
Rationale: Required by Sewage Collection and Treatment Regulations, 9VAC25-790 and Water Quality Standards 9VAC25-260-170, Bacteria; Other Recreational Waters. Also, 40 CFR 122.41(e) requires the permittee, at all times, to properly operate and maintain all facilities and systems of treatment in order to comply with the permit. This ensures proper operation of chlorination equipment to maintain adequate disinfection.
Part I.C – Other Requirements or Special Conditions

C1 - Notification Levels
Rationale: Required by VPDES Permit Regulation, 9 VAC 25-31-200 A for all manufacturing, commercial, mining, and silvicultural dischargers.

C2 - Materials Handling and Storage
Rationale: 9 VAC 25-31-50 A prohibits the discharge of any wastes into State waters unless authorized by permit. Code of Virginia § 62.1-44.16 and 62.1-44.17 authorizes the Board to regulate the discharge of industrial waste or other waste.

C3 – Licensed Operator Requirement (Sewage Treatment Plant)
Rationale: The VPDES Permit Regulation, 9 VAC 25-31-200 C and the Code of Virginia § 54.1-2300 et seq., Rules and Regulations for Waterworks and Wastewater Works Operators and Onsite Sewage System Professionals(18 VAC 160-20-10 et seq.), require licensure of operators.

C4 - TMDL / Nutrient Reopener
Rationale: Section 303(d) of the Clean Water Act requires that Total Maximum Daily Loads (TMDLs) be developed for streams listed as impaired. This special condition is to allow the permit to be reopened if necessary to bring it into compliance with any applicable TMDL approved for the receiving stream. The re-opener recognizes that, according to Section 402(o)(1) of the Clean Water Act, limits and/or conditions may be either more or less stringent than those contained in this permit. Specifically, they can be relaxed it they are the result of a TMDL, basin plan, or other wasteload allocation prepared under section 303 of the Act. 9 VAC 25-40-70 A authorizes DEQ to include technology-based annual concentration limits in the permits of facilities that have installed nutrient control equipment, whether by new construction, expansion or upgrade. 9 VAC 25-31-390.A authorizes DEQ to modify VPDES permits to promulgate amended water quality standards.

C5 - Operation and Maintenance Manual Requirement
Rationale: Required by Code of Virginia § 62.1-44.16; VPDES Permit Regulation, 9 VAC 25-31-190 E, and 40 CFR 122.41(e). These require proper operation and maintenance of the permitted facility. Compliance with an O & M manual ensures this.

C6 - Compliance Reporting
Rationale: Authorized by VPDES Permit Regulation, 9 VAC 25-31-190 J 4 and 220 I. This condition is necessary when pollutants are monitored by the permittee and a maximum level of quantification and/or a specific analytical method is required in order to assess compliance with a permit limit or to compare effluent quality with a numeric criterion. The condition also established protocols for calculation of reported values. Quantification levels (QLs) for TSS, Oil & Grease, TPH, and TRC are recommended by current agency guidance (GM10-2003, Attachment A, and GM00-2011). The BOD_5 QL of 2 mg/L is consistent with recently adopted VPDES General Permit regulations. The QLs for Copper, Nickel, and Zinc are the lesser of 0.4 or 0.6 multiplied by the acute WLA or chronic WLA, respectively, as advised in GM10-2003 (IN-3, Pg. 7).

C7 - Effluent Monitoring Frequencies
Rationale: Permittees are granted a reduction in monitoring frequency based on a history of permit compliance. To remain eligible for the reduction, the permittee should not have violations related to the effluent limits for which reduced frequencies were granted. If permittees fail to maintain the previous level of performance, the baseline monitoring frequencies should be reinstated for those parameters that were previously granted a monitoring frequency reduction.

C8 - Oil Storage Ground Water Monitoring Reopener
Rationale: Facilities with *less* than 1,000,000 gallons of regulated aboveground petroleum storage are required to provide a means for early leak detection in the event of AST failure, and facilities with *greater* than 1,000,000 gallons of regulated aboveground petroleum storage are required to regularly monitor ground water and submit results to DEQ under the *Facility and Aboveground Storage Tank Regulation* (9 VAC 25-91-10 et seq.) (AST Regulation).

The Surry Power Station stores approximately 278,000 gallons of petroleum product in aboveground storage tanks. Virginia Power has elected to conduct groundwater monitoring in order to fulfill the AST Regulation requirements for early leak detection. If monitoring proves inadequate to properly evaluate potential impacts to ground water, the VPDES permit, under Code of Virginia § 62.1-44.21, can be modified to incorporate appropriate monitoring.

The Gravel Neck Station stores greater than 1,000,000 gallons of petroleum product in aboveground storage tanks, and consequently Virginia Power is required to conduct regular groundwater monitoring in accordance with the AST Regulation. If monitoring proves inadequate to properly evaluate potential impacts to ground water, the VPDES permit, under Code of Virginia § 62.1-44.21, can be modified to incorporate appropriate monitoring.

C9 - Tank Bottom Waters and Pump and Haul Activities
Rationale: State Water Control Law §62.1-44.21 authorizes the Board to request information needed to determine possible impacts on State waters. This special condition requires the permittee to report any pump and haul activities regarding the removal of tank bottom waters. The requirement is carried forward from the 1996, 2001, and 2007 permit reissuances and allows DEQ to be kept apprised of tank bottom pump and haul activities.

C10 - Intake Trash Racks
Rationale: This special condition prohibits the return of debris collected on the intake trash racks to the waterway.

C11 - No Discharge of PCBs
Rationale: This special condition implements a prohibition against the discharge of polychlorinated biphenyl compounds in accordance with 40 CFR 423.12(b)(2) of the Federal Effluent Guidelines.

C12 - Discharge of Uncontaminated Water
Rational: This special condition identifies miscellaneous point source discharges at the power station that should consist only of uncontaminated river water or ground water. As such, effluent limitations and monitoring requirements are not necessary.

C13 - Discharge of Chlorine in Cooling Water
Rationale: This special condition prohibits the discharge of chlorine from any one power generating unit for more than 2 hours in any one day unless the utility can demonstrate that the unit cannot operate with this restriction. This 2-hour prohibition is in accordance with 40 CFR 423.13(b)(2) of the Federal Effluent Guidelines.

C14 - Radioactivity Regulated by NRC
Rationale: This special condition recognizes that the Nuclear Regulatory Commission (NRC) is the proper agency to regulate discharges of radioactivity.

C15 - No Discharge of Tank Bottom Waters
Rationale: This special condition prohibits the discharge of tank bottom waters from bulk fuel oil or waste oil storage facilities. This prohibition is consistent with the regulation of bulk petroleum handling facilities and is applicable to this facility because large quantities of fuel oil are stored. This special condition does not prohibit the discharge of tank bottom waters from highly refined lubricating oil tanks.

C16 - Water Quality Criteria Reopener
Rationale: VPDES Permit Regulation, 9 VAC 25-31-220 D requires effluent limitations to be established which will contribute to the attainment or maintenance of the water quality standards.

C17 - §316(b) Requirements
Rationale: The facility includes a cooling water intake structure governed by §316(b) of the Clean Water Act which requires that the location, design, construction and capacity of the cooling water intake structures reflect the "best technology available for minimizing adverse environmental impact". The Surry Power Station November 1980 environmental report on impingement and entrainment studies conducted at the facility indicated minimal or no adverse environmental impact. The special condition requires continued compliance with §316(b). Collected data and any changes to the intake structures or conditions will be reevaluated at each reissuance to monitor continued compliance with the requirement. The condition also includes a reopener, should further §316(b) related conditions become necessary once the EPA Phase II rule is finalized or a new BPJ determination is required.

C18 - Treatment Works Closure Plan
Rationale: Code of Virginia § 62.1-44.16 of the State Water Control Law. This condition establishes the requirement to submit a closure plan for the wastewater treatment facility if the treatment facility is being replaced or is expected to close.

C19 - 95% Capacity Reopener (Sewage Treatment Plant)
Rationale: Required by VPDES Permit Regulation, 9 VAC 25-31-200 B 4 for all POTW and PVOTW permits.

C20 - CTC, CTO Requirement (Sewage Treatment Plant)
Rationale: Required by Code of Virginia § 62.1-44.19; Sewage Collection and Treatment Regulations, 9 VAC 25-790-50. 9VAC 25-40-70.A authorizes DEQ to include technology-based annual concentration limits in the permits of facilities that have installed nutrient control equipment, whether by new construction, expansion or upgrade.

C21 - Reliability Class (Sewage Treatment Plant)
Rationale: Required by Sewage Collection and Treatment Regulations, 9 VAC 25-790 for all municipal facilities.

C22 - Sludge Reopener (Sewage Treatment Plant)
Rationale: Required by VPDES Permit Regulation 9 VAC 25-31-220 C for all permits issued to treatment works treating domestic sewage.

C23 - Sludge Use and Disposal (Sewage Treatment Plant)
Rationale: VPDES Permit Regulation, 9 VAC 25-31-100 P; 220 B 2, and 420 through 720; and 40 CFR Part 503 require all treatment works treating domestic sewage to submit information on sludge use and disposal practices and to meet specified standards for sludge use and disposal.

C24 - Monitoring Frequencies Encompassing Multiple Months
Rationale: Clarifies monitoring and reporting schedules.

C25 - Concept Engineering Report (CER)
Rationale: § 62.1-44.16 of the Code of Virginia requires industrial facilities to obtain DEQ approval for proposed discharges of industrial wastewater. A CER means a document setting forth preliminary concepts or basic information for the design of industrial wastewater treatment facilities and the supporting calculations for sizing the treatment operations. 9VAC 25-40-70.A authorizes DEQ to include technology-based annual concentration limits in the permits of facilities that have installed nutrient control equipment, whether by new construction, expansion or upgrade.

C26 – Schedule of Compliance
Rationale: The VPDES Permit Regulation at 9 VAC 25-31-250 allows for schedules that will lead to compliance with the Clean Water Act, the State Water Control Law, and regulations promulgated under them. A compliance schedule has been provided for Copper, Nickel, and Zinc for the 2013 permit reissuance.

C27 - Whole Effluent Toxicity (WET) Monitoring Program
Rationale: VPDES Permit Regulation, 9 VAC 25-31-210 and 220 I, requires monitoring in the permit to provide for and assure compliance with all applicable requirements of the State Water Control Law and the Clean Water Act. WET testing requirements and language were provided by OWP&CA. Please see **Attachment J** for WET evaluation and the above referenced guidance from OWP&CA.

Part I.D – Storm Water Management Conditions
Rationale: VPDES Permit Regulation, 9 VAC 25-31-10 defines discharges of storm water from industrial activity. 9 VAC 25-31-120 requires a permit for these discharges. The General Storm Water Special Conditions, Storm Water Pollution Prevention Plan requirements, and Benchmark Monitoring requirements of the permit are derived from the VPDES general permit for discharges of storm water associated with industrial activity (VAR05), 9 VAC 25-151-10 et seq. VPDES Permit Regulation, 9 VAC 25-31-220 K, requires use of best management practices where applicable to control or abate the discharge of pollutants when numerical effluent limits are infeasible or the practices are necessary to achieve effluent limits or to carry out the purpose and intent of the Clean Water Act and State Water Control Law. General storm water requirements, SWPPP requirements, and monitoring requirements have been included in accordance with the GM10-2003 Permit Manual, Section IN-4 and in accordance with the VAR05 Industrial Storm Water General Permit (9VAC25-151-10 et seq.). The Sector Specific Requirements contained in

Parts I.D.4 and I.D.5 of the 2013 permit reflect Sector O, Steam Electric Generating Facilities, but have been revised to remove references to activities relating to coal and ash/residue handling areas because these activities are not relevant to this site.

Part II, Conditions Applicable to All Permits
Rationale: VPDES Permit Regulation, 9 VAC 25-31-190 requires all VPDES permits to contain or specifically cite the conditions listed.

19. NPDES Permit Rating Work Sheet: Total Score: 600 (see **Attachment K**)

20. Changes to Permit:

EFFLUENT CHARACT.	Outfall 001 – Changes to Limitations and Monitoring Requirements												Reason for Change
	2008 Permit Modification Limitations & Monitoring						2013 Permit Limitations & Monitoring						
	DISCHARGE LIMITATIONS				MON. REQ'S		DISCHARGE LIMITATIONS				MON. REQ'S		
	MO AVG	WE AVG	MIN	MAX	FREQ	SAMPL	MO AVG	WE AVG	MIN	MAX	FREQ	SAMPL	
Flow (MGD)	NL	NA	NA	NL	Continuous	Recorded	NL	NA	NA	NL	Continuous	Recorded	No Changes
pH (Standard Units)	NA	NA	6.0	9.0	2 / Month	Grab	NA	NA	6.0	9.0	2 per Month	Grab	
Total Residual Chlorine (mg/L)	0.011	NA	NA	0.023	1 / Day	Grab	0.0080	NA	NA	0.016	1 per Day	Grab	The TRC limitation is more stringent due to WLAs for chlorine producing oxidants being used in lieu of TRC WLAs in the limitation evaluation. See Item 16 for further information
Heat Rejected (BTU/HR)	Heat rejected shall not exceed a daily maximum of 12.6 x 10^9				Continuous	Recorded	Heat rejected shall not exceed a daily maximum of 12.6 x 10^9				Continuous	Recorded	No Changes
Intake pH (Standard Units)	NA	NA	NL	NL	2 / Month	Grab	NA	NA	NL	NL	2 per Month	Grab	
Intake Total Suspended Solids (mg/L)	NL	NA	NA	NL	1 / 6 Months	Grab	NL	NA	NA	NL	1 per Month	Grab	Monitoring frequency increased in order to match minimum TSS monitoring frequencies for internal outfalls 116 and 117.
Total Phosphorus (mg/L	2.0	NA	NA	NL	1 / Year	Grab	--	--	--	--	--	--	Limitation removed. See Item 17 of this fact sheet for further information.
Thallium, total (µg/L)	--	--	--	--	--	--	NL	NA	NA	NL	1 per Year	Grab	Monitoring only added. See item 16 of this fact sheet for further information.

EFFLUENT CHARACT.	Outfall 101 – Changes to Limitations and Monitoring Requirements												Reason for Change
	2008 Permit Modification Limitations & Monitoring						2013 Permit Limitations & Monitoring						
	DISCHARGE LIMITATIONS				MON. REQ'S		DISCHARGE LIMITATIONS				MON. REQ'S		
	MO AVG	WE AVG	MIN	MAX	FREQ	SAMPL	MO AVG	WE AVG	MIN	MAX	FREQ	SAMPL	
Flow (MGD)	NL	NA	NA	NL	Continuous	Recorded	NL	NA	NA	NL	Continuous	Recorded	No Changes
pH (Standard Units)	NA	NA	6.0	9.0	1 / Day	Grab	NA	NA	6.0	9.0	1 per Day	Grab	
BOD_5 (mg/L)	30	NA	NA	45	1 / Week	4 HC	30	NA	NA	45	1 per 2 Months	4 HC	Monitoring frequency reduction granted in accordance with GM10-2003 (IN-2, Pgs.51-52)
Total Suspended Solids (mg/L)	30	NA	NA	45	1 / Month	4 HC	30	NA	NA	45	1 per 6 Months	4 HC	
Total Residual Chlorine (mg/L)	NA	NA	NA	NA	3 / Day at 4 Hr. Intervals	Grab	Removed						TRC monitoring and limitations are explained in Part I.B of the 2013 permit. This line item is unnecessary and redundant
Fecal coliform (n/100 mL)	200 geometric mean	NA	NA	NA	1 / Week	Grab	200 geometric mean	NA	NA	NA	4 Days per Month (between 10 a.m. and 4 p.m.)	Grab	Monitoring frequency changed to match recommended frequency in GM10-2003 (MN-2, Pg.2) when chlorine disinfection is used.
Enterococci (n/100 mL)	--	--	--	--	--	--	35 geometric mean	NA	NA	NA	4 Days per Month (between 10 a.m. and 4 p.m.)	Grab	See Item 16 of this fact sheet for information regarding the addition of this limitation to the 2013 permit.

	Outfalls 102, 103, 106 – Changes to Limitations and Monitoring Requirements												
	2008 Permit Modification Limitations & Monitoring						2013 Permit Limitations & Monitoring						Reason for Change
EFFLUENT CHARACT.	DISCHARGE LIMITATIONS				MON. REQ'S		DISCHARGE LIMITATIONS				MON. REQ'S		
	MO AVG	WE AVG	MIN	MAX	FREQ	SAMPL	MO AVG	WE AVG	MIN	MAX	FREQ	SAMPL	
Flow (MGD)	NL	NA	NA	NL	1 / 6 Months	Estimate	NL	NA	NA	NL	1 per 6 Months	Estimate	No Changes
pH (Standard Units)	NA	NA	NL	NL	1 / 6 Months	Grab	NA	NA	NL	NL	1 per 6 Months	Grab	
Total Suspended Solids – Net Increase (mg/L)	30	NA	NA	100	1 / 6 Months	Grab	30	NA	NA	100	1 per 6 Months	Grab	
Oil and Grease (mg/L)	15	NA	NA	20	1 / 6 Months	Grab	15	NA	NA	20	1 per 6 Months	Grab	

	Outfalls 116, 117 – Changes to Limitations and Monitoring Requirements												
	2008 Permit Modification Limitations & Monitoring						2013 Permit Limitations & Monitoring						Reason for Change
EFFLUENT CHARACT.	DISCHARGE LIMITATIONS				MON. REQ'S		DISCHARGE LIMITATIONS				MON. REQ'S		
	MO AVG	WE AVG	MIN	MAX	FREQ	SAMPL	MO AVG	WE AVG	MIN	MAX	FREQ	SAMPL	
Flow (MGD)	NL	NA	NA	NL	1 / 6 Months	Estimate	NL	NA	NA	NL	1 per Month	Estimate	Baseline monitoring frequencies applied because these outfalls discharge on an intermittent basis, and monitoring frequency reductions are not allowed for intermittent discharges (GM10-2003, IN-2, Pg. 53).
pH (Standard Units)	NA	NA	NL	NL	1 / 6 Months	Grab	NA	NA	NL	NL	1 per Month	Grab	
Total Suspended Solids – Net Increase (mg/L)	30	NA	NA	100	1 / 6 Months	Grab	30	NA	NA	100	1 per Month	Grab	
Oil and Grease (mg/L)	15	NA	NA	20	1 / 6 Months	Grab	15	NA	NA	20	1 per Month	Grab	

EFFLUENT CHARACT.	Outfalls 104, 109, 110, 111, 112, 113, 120 – Changes to Limitations and Monitoring Requirements												Reason for Change
	2008 Permit Modification Limitations & Monitoring						2013 Permit Limitations & Monitoring						
	DISCHARGE LIMITATIONS				MON. REQ'S		DISCHARGE LIMITATIONS				MON. REQ'S		
	MO AVG	WE AVG	MIN	MAX	FREQ	SAMPL	MO AVG	WE AVG	MIN	MAX	FREQ	SAMPL	
Flow (MGD)	NL	NA	NA	NL	1 / 6 Months	Estimate	NL	NA	NA	NL	1 per 6 Months	Estimate	No Changes
pH (Standard Units)	NA	NA	NL	NL	1 / 6 Months	Grab	NA	NA	NL	NL	1 per 6 Months	Grab	
Total Suspended Solids (mg/L)	30	NA	NA	100	1 / 6 Months	Grab	30	NA	NA	100	1 per 6 Months	Grab	
Oil and Grease (mg/L)	15	NA	NA	20	1 / 6 Months	Grab	15	NA	NA	20	1 per 6 Months	Grab	

EFFLUENT CHARACT.	Outfalls 107, 114, 115, 118, 119, 121, 122 – Changes to Limitations and Monitoring Requirements												Reason for Change
	2008 Permit Modification Limitations & Monitoring						2013 Permit Limitations & Monitoring						
	DISCHARGE LIMITATIONS				MON. REQ'S		DISCHARGE LIMITATIONS				MON. REQ'S		
	MO AVG	WE AVG	MIN	MAX	FREQ	SAMPL	MO AVG	WE AVG	MIN	MAX	FREQ	SAMPL	
Flow (MGD)	NL	NA	NA	NL	1 / 6 Months	Estimate	NL	NA	NA	NL	1 per Month	Estimate	Baseline monitoring frequencies applied because these outfalls discharge on an intermittent basis, and monitoring frequency reductions are not allowed for intermittent discharges (GM10-2003, IN-2, Pg. 53)
pH (Standard Units)	NA	NA	NL	NL	1 / 6 Months	Grab	NA	NA	NL	NL	1 per Month	Grab	
Total Suspended Solids (mg/L)	30	NA	NA	100	1 / 6 Months	Grab	30	NA	NA	100	1 per Month	Grab	
Oil and Grease (mg/L)	15	NA	NA	20	1 / 6 Months	Grab	15	NA	NA	20	1 per Month	Grab	

	Outfall 105 – Changes to Limitations and Monitoring Requirements												
	2008 Permit Modification Limitations & Monitoring						2013 Permit Limitations & Monitoring						Reason for Change
EFFLUENT CHARACT.	DISCHARGE LIMITATIONS				MON. REQ'S		DISCHARGE LIMITATIONS				MON. REQ'S		
	MO AVG	WE AVG	MIN	MAX	FREQ	SAMPL	MO AVG	WE AVG	MIN	MAX	FREQ	SAMPL	
Flow (MGD)	NL	NA	NA	NL	1 / 6 Months	Estimate	NL	NA	NA	NL	1 per Month	Estimate	Baseline frequencies applied because these outfalls discharge on an intermittent basis, and monitoring frequency reductions are not allowed for intermittent discharges (GM10-2003, IN-2, Pg. 53)
pH (Standard Units)	NA	NA	NL	NL	1 / 6 Months	Grab	NA	NA	NL	NL	1 per Month	Grab	
Total Suspended Solids (mg/L)	30	NA	NA	100	1 / 6 Months	Grab	30	NA	NA	100	1 per Month	Grab	
Total Petroleum Hydrocarbons (TPH) (mg/L)	NL	NA	NA	NA	1 / Year	Grab	NL	NA	NA	NA	1 per Month	Grab	
Oil and Grease (mg/L)	15	NA	NA	20	1 / 6 Months	Grab	15	NA	NA	20	1 per Month	Grab	

	Outfall 108 – Changes to Limitations and Monitoring Requirements												
	2008 Permit Modification Limitations & Monitoring						2013 Permit Limitations & Monitoring						Reason for Change
EFFLUENT CHARACT.	DISCHARGE LIMITATIONS				MON. REQ'S		DISCHARGE LIMITATIONS				MON. REQ'S		
	MO AVG	WE AVG	MIN	MAX	FREQ	SAMPL	MO AVG	WE AVG	MIN	MAX	FREQ	SAMPL	
Flow (MGD)	NL	NA	NA	NL	1 / Month	Measured	NL	NA	NA	NL	1 per Month	Estimate	Baseline monitoring frequencies applied because this outfall discharges on an intermittent basis, and monitoring frequency reductions are not allowed for intermittent discharges (GM10-2003, IN-2, Pg. 53)
pH (Standard Units)	NA	NA	NL	NL	1 / Month	Grab	NA	NA	NL	NL	1 per Month	Grab	
Total Suspended Solids (mg/L)	30	NA	NA	100	1 / Month	Grab	30	NA	NA	100	1 per Month	Grab	
Total Organic Carbon (mg/L)	NA	NA	NA	110	1 / 6 Months	Grab	NA	NA	NA	110	1 per Month	Grab	
Total Petroleum Hydrocarbons (TPH) (mg/L)	NL	NA	NA	NA	1 / Year	Grab	NL	NA	NA	NA	1 per Month	Grab	
Oil and Grease (mg/L)	15	NA	NA	20	1 / Month	Grab	15	NA	NA	20	1 per Month	Grab	

EFFLUENT CHARACT.	Outfall 002 – Changes to Limitations and Monitoring Requirements												Reason for Change
	2008 Permit Modification Limitations & Monitoring						2013 Permit Limitations & Monitoring						
	DISCHARGE LIMITATIONS				MON. REQ'S		DISCHARGE LIMITATIONS				MON. REQ'S		
	MO AVG	WE AVG	MIN	MAX	FREQ	SAMPL	MO AVG	WE AVG	MIN	MAX	FREQ	SAMPL	
Flow (MGD)	NL	NA	NA	NL	1 / 6 Month	Measured	NL	NA	NA	NL	1 per Month	Estimate	Baseline monitoring frequencies applied because this outfall discharges on an intermittent basis, and monitoring frequency reductions are not allowed for intermittent discharges (GM10-2003, IN-2, Pg. 53)
pH (Standard Units)	NA	NA	NL	NL	1 / 6 Month	Grab	NA	NA	NL	NL	1 per Month	Grab	
Total Suspended Solids (mg/L)	30	NA	NA	100	1 / 6 Month	Grab	30	NA	NA	100	1 per Month	Grab	
Total Organic Carbon (mg/L)	NA	NA	NA	110	1 / 6 Months	Grab	NA	NA	NA	110	1 per Month	Grab	
Total Petroleum Hydrocarbons (TPH) (mg/L)	NL	NA	NA	NA	1 / Year	Grab	NL	NA	NA	NA	1 per Month	Grab	
Copper, total recoverable (µg/L)	NL	NA	NA	NL	1 / 6 Months	Grab	3.6	NA	NA	3.6	1 per Month	Grab	New limitations, see Item 16 of this fact sheet for further information. Please note that the 2007 permit required monitoring only for Dissolved Copper and Zinc due to high concentrations observed in effluent screening data submitted with the 2006 application. Permit limitations for Total Recoverable Copper and Zinc have replaced the former monitoring requirements in the 2013 permit.
Nickel, total recoverable (µg/L)	--	--	--	--	--	--	9.2	NA	NA	9.2	1 per Month	Grab	
Zinc, total recoverable (µg/L)	NL	NA	NA	NL	1 / 6 Months	Grab	36	NA	NA	36	1 per Month	Grab	

	Outfall 002 – Changes to Limitations and Monitoring Requirements												
	2008 Permit Modification Limitations & Monitoring						2013 Permit Limitations & Monitoring						Reason for Change
EFFLUENT CHARACT.	DISCHARGE LIMITATIONS				MON. REQ'S		DISCHARGE LIMITATIONS				MON. REQ'S		
	MO AVG	WE AVG	MIN	MAX	FREQ	SAMPL	MO AVG	WE AVG	MIN	MAX	FREQ	SAMPL	
Rainwater pH	--	--	--	--	--	--	NA	NA	NL	NL	1 per Month	Grab	Line item for Rainwater pH added to clarify the existing requirement listed as a footnote for this outfall. See Item 16 of this fact sheet for further information.
PCB 1260 (µg/L)	NL	NA	NA	NL	1 / 5 years	Grab	--	--	--	--	--	--	PCB monitoring first appeared in the 2007 permit because effluent screening data submitted by the permittee reflected PCB concentrations less than a QL that was greater than the DEQ-required QL at the time. The permittee subsequently submitted acceptable PCB monitoring data to fulfill this permit requirement on 4/10/2007, and therefore, it has been removed from the 2013 permit.
PCB 1242 (µg/L)	NL	NA	NA	NL	1 / 5 years	Grab	--	--	--	--	--	--	
PCB 1254 (µg/L)	NL	NA	NA	NL	1 / 5 years	Grab	--	--	--	--	--	--	
PCB 1221 (µg/L)	NL	NA	NA	NL	1 / 5 years	Grab	--	--	--	--	--	--	
PCB 1232 (µg/L)	NL	NA	NA	NL	1 / 5 years	Grab	--	--	--	--	--	--	
PCB 1248 (µg/L)	NL	NA	NA	NL	1 / 5 years	Grab	--	--	--	--	--	--	
PCB 1016 (µg/L)	NL	NA	NA	NL	1 / 5 years	Grab	--	--	--	--	--	--	

	Outfalls 050, 051, 052, 053 – Changes to Limitations and Monitoring Requirements												
	2008 Permit Modification Limitations & Monitoring						2013 Permit Limitations & Monitoring						Reason for Change
EFFLUENT CHARACT.	DISCHARGE LIMITATIONS				MON. REQ'S		DISCHARGE LIMITATIONS				MON. REQ'S		
	MO AVG	WE AVG	MIN	MAX	FREQ	SAMPL	MO AVG	WE AVG	MIN	MAX	FREQ	SAMPL	
Flow (MGD)	--	--	--	--	--	--	NA	NA	NA	NL	1 per 3 Months	Estimate	Monitoring for Sector O benchmark parameters added due to the addition of storm water requirements in the 2013 permit.
Iron, total (mg/L)	--	--	--	--	--	--	NA	NA	NA	NL	1 per 3 Months	Grab	

Changes to Special Conditions and Other Changes			
From	**To**	**Special Condition Changed**	**Rationale**
Cover Page	Cover Page	--	The structure and language of the cover page have been modified in accordance with new agency procedures and for streamlining purposes. Signatory requirements have also changed in accordance with the October 2008 DEQ Agency Policy Statement 2-09, "Delegations of Authority". The facility name and locations have been revised to match those provided in the 2011 permit application. The authorization to discharge storm water from Outfalls 050, 051, 052, and 053 was added at the permittee's request.
Part I.A.1 & Part I.A.1.a	Part I.A.1	Limitations & Monitoring Page Preamble	Structure and language revised and combined for acuity and streamlining purposes.
Part I.A.1.a(1)	Part I.A.1(a)	Cooling Pump Operation Equivalent to Flow	No Change
Part I.A.1.a(2)	Part I.A.1(b)	Maintain pH within 0.5 SU of Intake pH	No Change
Part I.A.1.a(3)	Part I.A.1(c)	Compliance Reporting Reference	No Change
Part I.A.1.a(4)	Part I.A.1(d)	TRC Sampling Coincide with Addition	Revised wording for acuity purposes
Part I.A.1.a(5)	Part I.A.1(e)	TSS Intake Sampling	Revised wording for acuity purposes
Part I.A.1.b	Part I.A.2	Visible Effluent Quality	Revised to reflect prohibition of discharge of water with visible sheen.
Part I.A.2 & Part I.A.2.a	Part I.A.3	Limitations & Monitoring Preamble.	Structure and language revised and combined for acuity and streamlining purposes.
Part I.A.2.a(1)	Part I.A.3(a)	Design Flow	Added reference to 95% Capacity Reopener special condition for clarity.
Part I.A.2.a(3)	Part I.A.3(b)	Additional TRC Requirements Reference	Spelled out TRC acronym for acuity purposes
--	Part I.A.3(c)	4 Days per Month Monitoring Frequency Clarification	New, added to clarify expected monitoring schedule.
--	Part I.A.3(d)	Monitoring Frequencies Encompassing Multiple Months	New, added to clarify expected monitoring schedule.
Part I.A.2.a(2)	Part I.A.3(e)	Significant Figures	Wording revised for clarity
Part I.A.2.b	Part I.A.4	85% Removal	No Change
Part I.A.3	Part I.A.5	Limitations & Monitoring Page Preamble	Structure and language revised and combined for acuity and streamlining purposes. Removed Outfalls 116 & 117 from the 2013 permit Part I.A grouping because they are intermittent discharges and, therefore, monitoring frequencies were matched to baseline (see explanation in limitations and monitoring changes section of this fact sheet section above). The discharges from Outfall 102, 103, & 106, however, are eligible for monitoring frequency reductions for the 2013 permit, and consequently, were grouped in the Part I.A page addressed by this change explanation.
Part I.A.3(1)	Part I.A.5(a)	Effluent Monitoring Frequencies	No Change
--	Part I.A.5(b)	Monitoring Frequencies Encompassing Multiple Months	New, added to clarify expected monitoring schedule.
Part I.A.3(2)	Part I.A.5(c)	Significant Figures	Wording revised for clarity

Changes to Special Conditions and Other Changes			
From	**To**	**Special Condition Changed**	**Rationale**
[Part I.A.3]	Part I.A.6	Limitations & Monitoring Page Preamble	This is a new limitations and monitoring requirements page (i.e. "Part I.A" page) created in order to separate and group those outfalls which have the same limitations and monitoring requirements. The outfalls addressed in this 2013 permit Part I.A page were formerly grouped under Part I.A.3 of the 2008 permit modification. However, due to the intermittent discharge from these outfalls, baseline monitoring frequencies have been applied rather than the formerly reduced monitoring frequencies.
--	Part I.A.6(a)	Monthly Sampling Requirements	The intermittent discharge frequency from these outfalls may prevent a sampling event from occurring on a minimum basis of once per month. Therefore further sampling instructions have been added via this footnote for months in which no discharge occurs in order that the permittee remains consistent with previous sampling practices and current agency policy.
[Part I.A.3(2)]	Part I.A.6(b)	Significant Figures	Wording revised for clarity
Part I.A.4	Part I.A.7	Limitations & Monitoring Page Preamble	Structure and language revised and combined for acuity and streamlining purposes. Removed Outfalls 107, 114, 115, 118, 119, 121, & 122 from the 2013 permit Part I.A grouping because they are intermittent discharges and, therefore, monitoring frequencies were matched to baseline (see explanation in limitations and monitoring changes section of this fact sheet section above). The discharges from Outfalls 101, 102, 103, 104, 109, 110, 111, 112, 113, & 120, however, are eligible for monitoring frequency reductions for the 2013 permit, and consequently, are grouped in the Part I.A page addressed by this change explanation.
Part I.A.4(1)	Part I.A.7(a)	Effluent Monitoring Frequencies	No Change
--	Part I.A.7(b)	Monitoring Frequencies Encompassing Multiple Months	New, added to clarify expected monitoring schedule.
Part I.A.4(2)	Part I.A.7(c)	Significant Figures	Wording revised for clarity
[Part I.A.4]	Part I.A.8	Limitations & Monitoring Page Preamble	This is a new limitations and monitoring requirements page (i.e. "Part I.A" page) created in order to separate and group those outfalls which have the same limitations and monitoring requirements. The outfalls addressed in this 2013 permit Part I.A page were formerly grouped under Part I.A.3 of the 2008 permit modification. However, due to the intermittent discharge from these outfalls, baseline monitoring frequencies have been applied rather than the formerly reduced monitoring frequencies.
--	Part I.A.8(a)	Monthly Sampling Requirements	The intermittent discharge frequency from these outfalls may prevent a sampling event from occurring on a minimum basis of once per month. Therefore further sampling instructions have been added via this footnote for months in which no discharge occurs in order that the permittee remains consistent with previous sampling practices and current agency policy.
[Part I.A.4(2)]	Part I.A.8(b)	Significant Figures	Wording revised for clarity
Part I.A.5	Part I.A.9	Limitations & Monitoring Page Preamble	Structure and language revised and combined for acuity and streamlining purposes.
--	Part I.A.9(a)	TPH Test Method Requirements	New, reflects most recent TPH analysis procedures required in accordance with the *General VPDES Permit for Petroleum Contamination Sites, Groundwater Remediation, and Hydrostatic Tests (*9 VAC 25-120*)*.

Changes to Special Conditions and Other Changes			
From	**To**	**Special Condition Changed**	**Rationale**
--	Part I.A.9(b)	Monthly Sampling Requirements	The intermittent discharge frequency from these outfalls may prevent a sampling event from occurring on a minimum basis of once per month. Therefore further sampling instructions have been added via this footnote for months in which no discharge occurs in order that the permittee remains consistent with previous sampling practices and current agency policy.
Part I.A.5(2)	Part I.A.9(c)	Significant Figures	Wording revised for clarity
Part I.A.5.b	Part I.A.10	No Discharge of Tank Bottom Waters	No Change
Part I.A.6	Part I.A.11	Limitations & Monitoring Page Preamble	Structure and language revised and combined for acuity and streamlining purposes.
--	Part I.A.11(a)	TPH Test Method Requirements	New, reflects most recent TPH analysis procedures required in accordance with the *General VPDES Permit for Petroleum Contamination Sites, Groundwater Remediation, and Hydrostatic Tests (*9 VAC 25-120*)*.
--	Part I.A.11(b)	Monthly Sampling Requirements	The intermittent discharge frequency from these outfalls may prevent a sampling event from occurring on a minimum basis of once per month. Therefore further sampling instructions have been added via this footnote for months in which no discharge occurs in order that the permittee remains consistent with previous sampling practices and current agency policy.
Part I.A.5(2)	Part I.A.11(c)	Significant Figures	Wording revised for clarity
Part I.A.7	Part I.A.12	Limitations & Monitoring Page Preamble	Structure and language revised and combined for acuity and streamlining purposes.
Part I.A.7.a(2)	Part I.A.12(a)	Maintain pH within 0.5 SU of Rainfall pH	Revised for the purposes of enforceability and for clarity.
Part I.A.7.a(4)	Part I.A.12(b)	Quantification Levels	No Change
--	Part I.A.12(c)	Monthly Sampling Requirements	The intermittent discharge frequency from this outfall may prevent a sampling event from occurring on a minimum basis of once per month. Therefore further sampling instructions have been added via this footnote for months in which no discharge occurs in order that the permittee remains consistent with previous sampling practices and current agency policy.
Part I.A.7.a(3)	Part I.A.12(d)	Significant Figures	Wording revised for clarity
--	Part I.A.12(e)	Schedule of Compliance Reference	Added because a Schedule of Compliance has been granted to the permittee in order to meet new permit limitations at this outfall.
--	Part I.A.12(f)	TPH Test Method Requirements	New, reflects most recent TPH analysis procedures required in accordance with the *General VPDES Permit for Petroleum Contamination Sites, Groundwater Remediation, and Hydrostatic Tests (*9 VAC 25-120*)*.
Part I.A.7.b	Part I.A.13	Visible Effluent Quality	Revised to reflect prohibition of discharge of water with visible sheen.
Part I.A.7.c	Part I.A.14	No Discharge of Tank Bottom Waters	No Change
--	Part I.A.15, Part I.A.15(a) Part I.A.15(b) Part I.A.15(c)	Storm Water Benchmark Monitoring Requirements	Added due to the permittee's request that storm water management requirements be added to the 2013 permit.

Changes to Special Conditions and Other Changes			
From	**To**	**Special Condition Changed**	**Rationale**
Part I.B	Part I.B	TRC and Additional Bacteria Requirements (Outfall 101)	Wording and structure changed for acuity purposes. Minimum TRC limitation revised to reflect two significant figures. Fecal coliform limitation added in the event that disinfection is by means other than chlorination. Enterococci demonstration study requirements removed because the permittee successfully completed the study and submitted results to DEQ on 6/21/2007.
Part I.C.1	Part I.C.1	Notification Levels	Revised threshold value for Antimony to reflect 2 significant figures.
Part I.C.2	Part I.C.2	Materials Handling and Storage	Revised to require consistency with Best Management Practices.
Part I.C.3	Part I.C.3	Licensed Operator Requirements	DPOR regulation name changed to match current regulation
Part I.C.18 / Part I.C.4	Part I.C.4	TMDL / Nutrient Reopener	Revised combined language addresses both nutrient reopener and TMDL reopener.
Part I.C.5	Part I.C.5	O & M Manual Requirement	Revised to reflect boilerplate language released by OWP&CA on 4/3/2012
Part I.C.6	Part I.C.6	Compliance Reporting	Revised to reflect current agency guidance (GM10-2003, IN-3,Pg.15). Language further revised according to regional procedure and for clarity purposes. BOD_5 QL revised from 5 mg/L to 2 mg/L for consistency with recently adopted VPDES General Permit regulations. QL for Nickel added to reflect current target value in accordance with agency guidance. QL for TPH revised to match QL for Oil & Grease. PCB and TP QLs removed as the parameters are no longer limited or monitored in the permit.
Part I.C.7	Part I.C.7	Effluent Monitoring Frequencies	Language unchanged. Outfalls 107, 108, 114, 115,116, 117, 118, 119, 121, 122, and 002 removed because monitoring frequency reductions no longer apply to these outfalls and monitoring frequencies have been returned to baseline.
Part I.C.8	Part I.C.8	Oil Storage Ground Water Monitoring Reopener	Reference to “ODCP” regulation removed because ODCP’s are required by the AST regulation. Language revised to account for how the AST regulation addresses both the Surry Power Station and Gravel Neck Station facilities with regard to groundwater monitoring. Unlike the Gravel Neck facility, the Surry Power Station is not specifically required by the AST regulation to conduct groundwater monitoring because it has an aggregated petroleum storage volume of less than 1 million gallons. However, they are required by the AST regulation to implement an early leak detection system, and one of the options for doing this is groundwater monitoring, which Virginia Power has elected to do.
Part I.C.9	Part I.C.9	Tank Bottom Waters Pump and Haul Activities	No Change
Part I.C.10	Part I.C.10	Intake Trash Racks	No Change
Part I.C.11	Part I.C.11	No Discharge of PCBs	No Change
Part I.C.12	Part I.C.12	Discharges of Uncontaminated Water	No Change
Part I.C.13	Part I.C.13	Discharge of Chlorine in Cooling Water	Revised language to match that used as the basis for this special condition (40 CFR 423.13(b)(2))
Part I.C.14	Part I.C.14	Radioactivity Regulated by NRC	No Change

Changes to Special Conditions and Other Changes			
From	**To**	**Special Condition Changed**	**Rationale**
Part I.C.15	Part I.C.15	No Discharge of Tank Bottom Waters	Removed “at the Gravel Neck Facility” because the prohibition on discharging tank bottom waters applies to both the Surry Power Plant and the Gravel Neck facilities.
Part I.C.16	Part I.C.16	Water Quality Criteria Reopener	No Change
Part I.C.17	Part I.C.17	316(b) Requirements	Revised to reflect language released by OWP&CA on 11/7/2011.
Part I.C.19	Part I.C.18	Treatment Works Closure Plan	Language revised in accordance with current agency guidance (GM10-2003, IN-3 , Pg. 19). Language further revised in accordance with Staff Decisions (8/7/2012)
Part I.C.20	Part I.C.19	95% Capacity Reopener	Language slightly revised for clarity.
Part I.C.21	Part I.C.20	CTC, CTO Requirement	Revised wording to reflect GM10-2003 (MN-3, Pg.4) and to be consistent with GM07-2008 Amendment 2.
Part I.C.22	Part I.C.21	Reliability Class	No Change
Part I.C.23	Part I.C.22	Sludge Reopener	No Change
Part I.C.24	Part I.C.23	Sludge Use and Disposal	Revised to remove reference to the Virginia Department of Health in accordance with GM10-2003 (MN-3, Pg.16)
--	Part I.C.24	Monitoring Frequencies Encompassing Multiple Months	New, added to clarify the expected monitoring schedule for monitoring periods spanning more than a single month.
--	Part I.C.25	Concept Engineering Report	New, added in accordance with 6/29/2010 regional staff, and 7/22/2010 water program manager decision to include this special condition in all industrial VPDES individual permits. Second paragraph added to be consistent with GM07-2008 Amendment 2.
--	Part I.C.26	Schedule of Compliance	New, added to provide the permittee with a schedule to attain compliance with the new 2013 permit limitations for Copper, Nickel, and Zinc.
Part I.C.25	Part I.C.27	WET Monitoring Program	Language revised in accordance with recommendations from OWP&CA.
--	Part I.D	Storm Water Management Conditions	New, added at the permittee’s request. Storm water discharges from this site were previously covered under a No Exposure Certification issued in 2007. In January 2012 the permittee requested a meeting to discuss the fact that Dominion found it difficult to maintain a condition of No Exposure onsite during outages (about every 18 months) due to the influx of very large machinery and the need for storage of replaced turbines. The permittee submitted a Form 2F application to DEQ in May 2012, but did not include monitoring data at that time. Therefore, the boilerplate special condition language from GM10-2003 (IN-3, Pg. 16) was incorporated into Part I.D in order to allow the permittee to submit Part VII of Form 2F within one year of the effective date of the permit. Once testing results are received, the permit may be reopened to incorporate regular pollutant monitoring and WET monitoring.
--	Part II.A.4	VELAP Requirement	New, incorporated to reflect change in laboratory accreditation requirements and in accordance with GM10-2003

Changes to Special Conditions and Other Changes			
From	**To**	**Special Condition Changed**	**Rationale**
Items Removed from 2008 Permit Modification			
Part I.A.1.a	Removed	Limitations & Monitoring Page Preamble	This subpart has been combined with the rest of the preamble to better match regional permit structural preferences
Part I.A.2.a			
Part I.A.5.a			
Part I.A.7.a			
Part I.A.2.a(4)	Removed	Fecal coliform sampling	The footnote is redundant to the 2013 Part I.A.3 page and to Part I.B special condition
[Part I.A.3(1)]	Removed	Effluent Monitoring Frequencies Reference	Baseline monitoring frequencies have been applied for the 2013 permit, therefore, this footnote reference to the Effluent Monitoring Frequencies special condition is no longer applicable.
[Part I.A.4(1)]			
Part I.A.5(1)			
Part I.A.6(1)			
Part I.A.7.a(1)			
Part I.A.7.a(5)	Removed	PCB Sampling Instructions	PCB sampling is not required for the 2013 permit

21. Variances/Alternate Limits or Conditions: A §316(a) thermal variance is continued in the proposed permit. There have been no substantial changes in the conditions described in Virginia Power's initial request for a variance under §316(a) of the Clean Water Act.

22. Public Notice Information required by 9 VAC 25-31-280 B:
Comment period: Start Date: TBD End Date: TBD
Published Dates: TBD
Name of Newspaper: *Sussex-Surry Dispatch*

All pertinent information is on file and may be inspected or copied by contacting Jeremy Kazio at:

Virginia Department of Environmental Quality (DEQ)
Piedmont Regional Office
4949-A Cox Road
Glen Allen, Virginia 23060-6296

Telephone Number 804/527-5044
Facsimile Number 804/527-5106
Email Jeremy.Kazio@deq.virginia.gov

DEQ accepts comments and requests for public hearing by hand delivery, e-mail, fax or postal mail. All comments and requests must be in writing and be received by DEQ during the comment period. Submittals must include the names, mailing addresses and telephone numbers of the commenter/requester and of all persons represented by the commenter/requester. A request for public hearing must also include: 1) The reason why a public hearing is requested. 2) A brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requester, including how and to what extent such interest would be directly and adversely affected by the permit. 3) Specific references, where possible, to terms and conditions of the permit with suggested revisions. A public hearing may be held, including another comment period, if public response is significant, based on individual requests for public hearing, and there are substantial, disputed issues relevant to the permit. The public may review the draft permit and application at the DEQ Piedmont Regional Office by appointment or may request copies of the documents from the contact person listed above.

23. Additional Comments:

Previous Board Action: None

Staff Comments:

a. *Watershed Nutrient General Permit:* This facility is authorized to discharge total nitrogen and total phosphorus in accordance with 9 VAC 25-820-70.A.2 of the *General VPDES Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Bay Watershed in Virginia*. During promulgation of Virginia's *Water Quality Management Plan Regulation* (9 VAC 25-720), this facility was identified as a non-significant discharger according to the definition in the regulation, and therefore the permittee did not receive site specific nutrient load allocations. Existing facilities that were not identified as significant dischargers may, nonetheless, be required to register under the Watershed Nutrient General Permit (and consequently receive individual nutrient load allocations) if the facility has undergone a design flow expansion (municipal dischargers), or has increased its delivered nutrient load to levels that are equivalent to a design flow expansion (industrial dischargers) as outlined in § 62.1-44.19:15 (*Code of Virginia*), and 9 VAC 25-40-70 (*Regulation for Nutrient Enriched Waters and Dischargers within the Chesapeake Bay Watershed*).

   For industrial dischargers, agency guidance (GM07-2008 Amd.2, Page 10) asserts that an increase in effluent flow volume should not be used to determine whether there has been an increase in delivered nutrient load from a facility unless the flow rate increase is directly associated with capital construction improvements requiring a Concept Engineering Report. Since Virginia Power has not undergone an expansion or upgrade, the permittee is not required to register under the Watershed Nutrient General Permit, and an evaluation of the facility's delivered nutrient load is not required.

b. *Monitoring Frequency Reduction:* The permittee has not received any Notices of Violation in the last three years. A reduction in monitoring frequency was granted for BOD_5 and TSS at Outfall 101, and for all pollutants that are limited or monitored at Outfalls 102, 103, 104, 109, 110, 111, 112, 113, & 120 in accordance with GM10-2003 (IN-2, Pgs.51-53) for the 2013 permit. Please note that the monitoring frequency reduction analysis for TSS at Outfall 113 resulted in an increased monitoring frequency of 1 per 3 Months (from 1 per 6 Months). This was due to a single data point of 28.2 mg/L, which is much higher than the overall 5 year average of 8.7 mg/L (6.2 mg/L without this data point). It is staff's judgment that this data point is an outlier and does not represent the typical effluent discharged from this outfall, and therefore, it is recommended that the monitoring frequency for this parameter remain at 1 per 6 months.

   Pollutants for which monitoring frequency reductions were previously granted at Outfalls 107, 108, 114, 115,116, 117, 118, 119, 121, 122, and 002 have been increased to baseline frequencies (1 per Month) because these outfalls discharge on an intermittent basis according to historic DMR data submittals and the 2011 permit application. Monitoring frequency reductions are not allowed for intermittent discharges according to GM10-2003 (IN-2, Pg. 53).

c. *Storm Water Requirements:* Storm water discharges from this site were previously covered under a No Exposure Certification accepted 9/28/2008. In January 2012 the permittee requested a meeting to discuss the fact that Dominion found it difficult to maintain a condition of No Exposure onsite during station outages (about every 18 months) due to the influx of very large machinery traffic and the need for storage of replaced turbines, and other large machinery, onsite. The permittee submitted a Form 2F application to DEQ in May 2012, but did not include monitoring data at that time. Therefore, the boilerplate special condition language from GM10-2003 (IN-3, Pg. 16) was incorporated into Part I.D of the 2013 permit in order to allow the permittee to submit Part VII of Form 2F within one year of the effective date of the permit. Once testing results are received, the permit may be reopened to incorporate regular pollutant monitoring and WET monitoring. In the interim, and during the rest of the permit cycle, the permittee is expected to develop and maintain a SWPPP and utitlize BMPs in accordance with Parts I.D.2, 3, and 4, as well as conduct benchmark monitoring in accordance with Part I.D.5, of the 2013 permit.

d. *Permit Expiration Prior to Reissuance:* This permit is being reissued subsequent to expiration due to administrative delays.

e. *VDH-Office of Drinking Water (ODW) and VDH-Division of Shellfish Sanitation (DSS):* The VDH-ODW indicated no objection to the existing discharge. Coordination with VDH-DSS indicated that the existing discharge would not change the current shellfish harvest designation (see **Attachment L**).

f. This permit reissuance is non-controversial. The staff believes that the attached effluent limitations will maintain the Water Quality Standards adopted by the Board.

g. *Planning Concurrence:* The discharge is not addressed in any planning document but will be included when the plan is updated.

h. *EPA Comments*: The draft permit was sent to EPA on --, 2013. EPA responded on --, 2013 stating that --. Please see **Attachment M** for EPA's full response.

i. *Permit Fees:* The permittee is considered to be current on their annual maintenance fee, last paid on August 22, 2012.

j. *VEEP Status:* The permittee is not a participant in the Virginia Environmental Excellence Program.

k. *E-DMR Status:* The permittee is an e-DMR participant beginning 4/19/2012.

l. *Local Government Notification of Public Notice:* A copy of the public notice for the 2013 permit reissuance was mailed to the Crater Planning District Commission, the Surry County Administrator, and the Chairman of the Surry County Board of Supervisors on , 2013, in accordance with the Code of Virginia, §62.1-44.15:01. No comments regarding the permit action were received.

m. *Coordination with DCR:* Coordination with DCR was initiated on 9/27/2012. DCR responded on 10/22/2012 stating that they do not anticipate that the permit reissuance will adversely impact natural heritage resources or state-listed threatened or endangered plant and insect species (see **Attachment L**)

n. *Application Waiver* The permittee submitted a request for, and was subsequently granted, a waiver from 24-hour composite sampling from Outfall 002. Please see **Attachment N** for Virginia Power's sampling plan as well as a copy of the application waiver granted by DEQ.

o. Special standards "z", and "ESW-11" do not apply to the segment of the river basin to which this facility discharges. Special standard "a" is addressed via a limitation for Fecal Coliform at Outfall 101(see Item 16 of this fact sheet for more information). See Item 25 of this fact sheet for further information regarding special standard "bb".

24. Public Comment: TBD

25. 303(d) Listed Segments and TMDLs:

Outfall 001 / Outfall 052:
During the 2010 305(b)/303(d) Integrated Water Quality Assessment, the James River was considered a Category 5A water ("A Water Quality Standard is not attained. The water is impaired or threatened for one or more designated uses by a pollutant(s) and requires a TMDL (303d list).") The Aquatic Life Use is impaired due to excessive chlorophyll *a*, inadequate benthic community, and past dissolved oxygen exceedances. The Fish Consumption Use is impaired due to a VDH advisory for PCBs; in addition, kepone is considered a non-impairing observed effect. The Recreation Use was fully supporting and the Wildlife Use was not assessed.

In the draft 2012 Water Quality Assessment, the river was assessed as Category 5D. The Aquatic Life Use is impaired due to excessive chlorophyll *a*, inadequate benthic community, and past dissolved oxygen exceedances. The Fish Consumption Use is impaired due to a VDH advisory for PCBs; in addition, kepone

is considered a non-impairing observed effect. The Recreation Use was fully supporting and the Wildlife Use was not assessed.

Outfall 002 / Outfall 050:
During the 2010 305(b)/303(d) and draft 2012 Assessments, the unnamed tributary was not assessed for any Designated Use. It is therefore considered a Category 3A water.

Outfall 051:
The stream was not assessed in the 2010 or draft 2012 Water Quality Assessment (Category 3A).

Outfall 053:
Stormwater outfall 052 discharges to the mesohaline James River at rivermile 2-JMS029.27. The James River was considered Category 5A in the 2010 305(b) cycle and Category 5D in the draft 2012 report. The applicable fact sheets are attached. The Aquatic Life Use is impaired due to excessive chlorophyll *a* and dissolved oxygen exceedances during the summer period in segment JMSMH. The Fish Consumption Use is impaired due to a VDH advisory for PCBs; in addition, kepone is considered a non-impairing observed effect. The Recreation Use and Shellfish Uses were fully supporting and the Wildlife Use was not assessed.

All Outfall Locations:
The facility was addressed in the Chesapeake Bay TMDL, which was approved by the EPA on 12/29/2010. The TMDL allocates loads for total nitrogen, total phosphorus, and total suspended solids to protect the dissolved oxygen and submerged aquatic vegetation acreage criteria in the Chesapeake Bay and its tidal tributaries. The Surry Power Plant discharge was included in the aggregated loads for non-significant wastewater dischargers in the oligohaline James River estuary (JMSOH). The stormwater outfall discharge to the mesohaline James River estuary (JMSMH) was not addressed. The nutrient allocations are administered through the Watershed Nutrient General Permit; the TSS allocations are considered aggregated and facilities with technology-based TSS limits are considered to be in conformance with the TMDL.

a. *Chesapeake Bay TMDL, chlorophyll-a, benthic impairments, and dissolved oxygen impairment*:
This facility discharges directly to James River in the Chesapeake Bay watershed in segment JMSOH. The receiving stream has been addressed in the Chesapeake Bay TMDL, approved by EPA on December 29, 2010. The TMDL addresses dissolved oxygen (DO), chlorophyll a, and submerged aquatic vegetation (SAV) impairments in the main stem Chesapeake Bay and its tidal tributaries by establishing non-point source load allocations (LAs) and point-source waste load allocations (WLAs) for Total Nitrogen (TN), Total Phosphorus (TP) and Total Suspended Solids (TSS) to meet applicable Virginia Water Quality Standards contained in 9VAC25-260-185.

Implementation of the Chesapeake Bay TDML is currently accomplished in accordance with the Commonwealth of Virginia's Phase I Watershed Implementation Plan (WIP), approved by EPA on December 29, 2010. The approved WIP recognizes the "General VPDES Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Bay Watershed of Virginia" (9VAC25-820) as controlling the nutrient allocations for non-significant Chesapeake Bay dischargers. The approved WIP states that for non-significant Municipal and Industrial facilities, nutrient WLAs are to be consistent with Code of Virginia procedures, which set baseline WLAs to 2005 permitted design capacity nutrient load levels. In accordance with the WIP, TN and TP WLAs for non-significant facilities are considered aggregate allocations and will not be included in individual permits. The WIP also considers TSS WLAs for non-significant facilities to be aggregate allocations, but TSS limits are to be included in individual VPDES permits in conformance with the technology-based requirements of the Clean Water Act. However, the WIP recognizes that so long as the aggregated TSS permitted loads for all dischargers is less than the aggregated TSS load in the WIP, the individual permit will be consistent with the TMDL.

40 CFR 122.44(d)(1)(vii)(B) requires permits to be written with effluent limits necessary to meet water quality standards and to be consistent with the assumptions and requirements of applicable WLAs.

This facility is considered a Non-significant Chesapeake Bay discharger because it is an existing facility with a nutrient load equivalent to a permitted design capacity flow of less than 100,000 gallons per day into tidal waters. This facility has not made application for a new or expanded discharge since 2005. It is therefore covered by rule under the 9VAC25-820 regulation. In accordance with the WIP, TN and TP load limits are not included in this individual permit, but are consistent with the TMDL because the current nutrient loads are in conformance with the facility's 2005 permitted design capacity loads. This individual permit includes TSS limits of 30 mg/L that are in conformance with technology-based requirements and, in turn, are consistent with the Chesapeake Bay TMDL. Implementation of the full Chesapeake Bay WIP, including GP reductions combined with actions proposed in other source sectors, is expected to adequately address ambient conditions such that the proposed effluent limits of this individual permit are consistent with the Chesapeake Bay TMDL, and will not cause an impairment or observed violation of the standards for DO, chlorophyll a, or SAV as required by 9VAC25-260-185.

The Regulation for Nutrient Enriched Waters and Dischargers within the Chesapeake Bay Watershed, 9VAC25-40, does not regulate discharges of storm water; therefore, the permittee's storm water discharges are not subject to the General VPDES Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Bay Watershed in Virginia, 9VAC25-820. Although the storm water requirements of this permit do not include numeric limitations, it is consistent with the Chesapeake Bay TMDL through the SWPPP. The goal of the SWPPP is consistent with that of the TMDL, which is to minimize pollutants to the maximum extent possible.

b. *Polychlorinated Biphenyl's (PCB's)*: The permittee submitted effluent data for all seven PCB aroclors required by Attachment A using the proper test method (608). All PCB aroclors were reported less than the DEQ recommended QL (<1.0 µg/L). Therefore, this facility's discharge is not expected to cause or contribute to the PCB fish consumption impairment.

26. Fact Sheet Attachment Guide:

Attachment A	Flow Frequency Memo, VIMS Mixing Study
Attachment B	Flow Diagram, Outfall Location Map, Sewage Treatment Plant Diagram, Storm Water Outfall Location Map, Well Location Map and Sludge Hauling Route
Attachment C	Topographic Map and Aerial Photographs
Attachment D	Materials/Chemicals Used/Stored Onsite
Attachment E	Ambient Data from Monitoring Stations 2-JMS041.27 & 2-JMS050.57
Attachment F	Facility Site Inspection
Attachment G	Effluent Screening Data, Form 2C Data, and DMR Data
Attachment H	Effluent Limitation Analysis (MSTRANTI & STATS Printouts)
Attachment I	Federal Effluent Guidelines (Steam Electric Power Generating Cat.)
Attachment J	WET Evaluation and Associated OWP&CA Guidance
Attachment K	NPDES Permit Rating Worksheet
Attachment L	VDH and DCR Concurrence
Attachment M	EPA Review Response
Attachment N	5/27/2010 Application Waiver